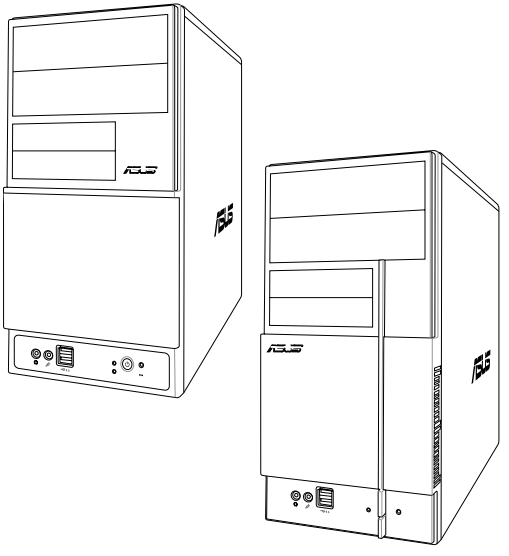
V2/V3-M3N8200

ASUS PC (Desktop Barebone)

Installation Manual



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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing devices into the system, carefully read all the documentation that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet. Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

Lithium-Ion Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

VORSICHT: Explosionsgetahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnljchen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

LASER PRODUCT WARNING

CLASS 1 LASER PRODUCT

The symbol of the crossed out wheeled bin indicates that the product (electrical, electronic equipment, Mercury-containing button cell battery) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

About this guide

Audience

This guide provides general information and installation instructions about the ASUS Vintage V2/V3-M3N8200 barebone system. This guide is intended for experienced users and integrators with hardware knowledge of personal computers.

How this guide is organized

This guide contains the following parts:

1. **Chapter 1: System introduction**
   This chapter gives a general description of the ASUS V2/V3-M3N8200. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2. **Chapter 2: Basic installation**
   This chapter provides step-by-step instructions on how to install components in the system.

3. **Chapter 3: Starting up**
   This chapter helps you power up the system and install drivers and utilities from the support CD.

4. **Chapter 4: Motherboard information**
   This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

5. **Chapter 5: BIOS setup**
   This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.

Conventions used in this guide

WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS Websites**
   The ASUS websites worldwide provide updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional Documentation**
   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

System package contents

Check your V2/V3-M3N8200 system package for the following items.

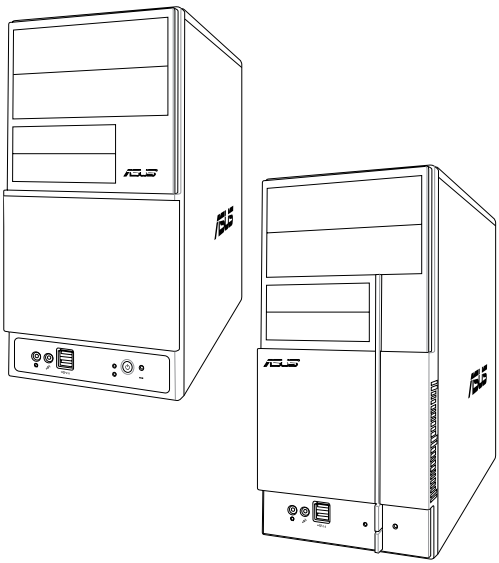
If any of the items is damaged or missing, contact your retailer immediately.

Item description
1. **ASUS V2/V3-M3N8200 barebone system** with
• ASUS motherboard
• Power supply unit
• ASUS chassis
2. **Cable**
• AC power cable
3. **Support CD**
4. **User guide**

An optional card reader is available along with the system for the users to purchase.

Chapter 1

This chapter gives a general description of the ASUS V2/V3-M3N8200. The chapter lists the system features including introduction on the front and rear panel, and internal components.



System introduction

1.1 Welcome!

Thank you for choosing the ASUS V2/V3-M3N8200!

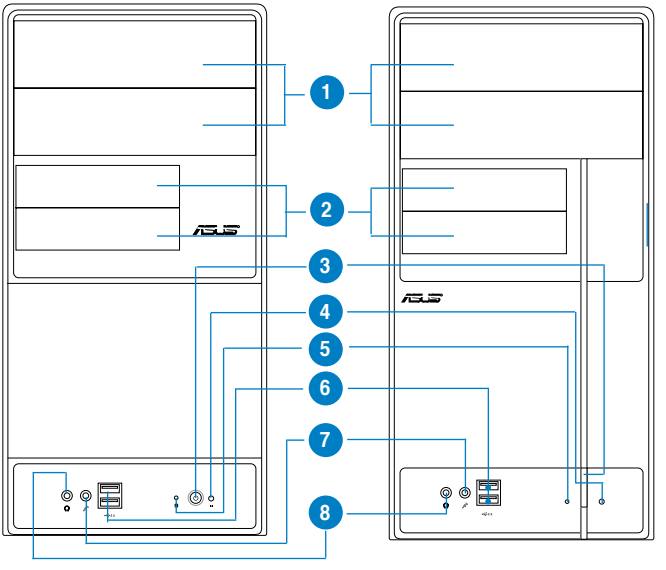
The ASUS V2/V3-M3N8200 is an all-in-one barebone system with a versatile home entertainment feature.

The system comes in a stylish casing and powered by the ASUS motherboard with the AMD Socket AM2+ that supports the AMD® Phenom™FX / Phenom™ / Athlon™ / Sempron™ processors.

The system supports up to 8 GB of system memory using DDR2-1066/800/667/533 DIMMs. High-resolution graphics via Nvidia on board Gfx or PCI Express x16 slot, Serial ATA, USB 2.0, and 8-channel audio feature the system and take you ahead in the world of power computing.

1.2 Front panel

The front panel includes the optical drive bays, floppy disk drive slot, power button, and several I/O ports are located at the front panel.



1. **Two empty 5.25-inch bays.** These bays are for IDE optical drives.
2. **3.5-inch drive bays.** These slots are for 3.5-inch floppy or hard disk drives.
3. **Power button.** Press this button to turn the system on.
4. **Reset button.** Press this button to reboot the system without turning off the power.
5. **HDD LED.** This LED lights up when data is read from or written to the hard disk drive.
6. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
7. **Microphone port.** This Mic (pink) port connects a microphone.
8. **Headphone port.** This Line In (green) port connects a headphone with a stereo mini-plug.

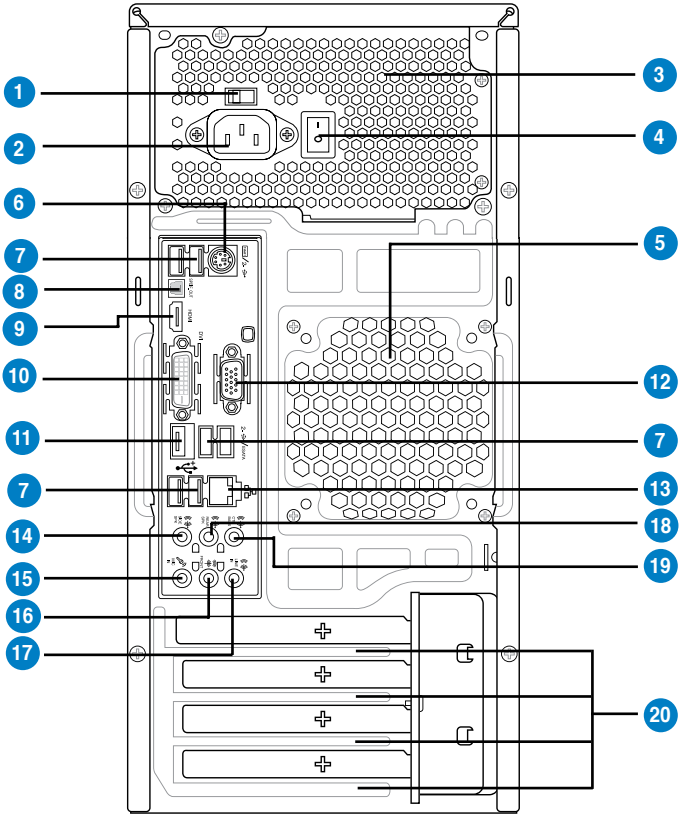
This V-series provide V2/V3 two types of front panel for users to choose, please refer to your product package for the front panel type you purchased.

PCI Express Graphics Slot supports most of the ATi® and NVDIA® graphics cards, except some ATi® graphics cards of old version, such as ATi® X300, X550, X700, and X800 series.

An optional Card Reader (see the figure bellow) available. It is to be installed in the 3.5-inch drive bay, and connected to the motherboard through a USB cable.

1.3 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.



Do NOT cover the rear vent , and the ambience temperature is limited up to 35°C to prevent the system from overheating.

1. **Voltage selector.** This switch allows you to adjust the system input voltage according to the voltage supply in your area. See the section “Voltage selector” on page 1-6 before adjusting this switch.
2. **Power connector.** This connector is for the power cable and plug.
3. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.
4. **Power Switch.** This switch is for switching on/off the power supply unit.

5. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.
6. **PS/2 keyboard port.** This purple 6-pin connector is for a PS/2 keyboard.
7. **USB 2.0 ports 1, 2, 3, 4, 5, and 6.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
8. **Optical S/PDIF Out port.** This port connects an external audio output device via an optical S/PDIF cable.
9. **HDMI port.** This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-Ray and other protected content.
10. **DVI pot.** This port is for any DVI-D compatible device. DVI-D can not be converted to output RGB Signal to CRT and is not compatible with DVI-I.

Dual display output support

- This table indicates that whether the following dual display outputs are supported for your motherboard:

Dual display outputs	Supported	Not supported
DVI + D-Sub	•	
DVI + HDMI		•
HDMI + D-Sub	•	

- During POST, only the monitor connected to the D-Sub port has display. The dual display function works only under Windows.

Playback of HD DVD and Blu-Ray Discs

- For better playback quality, we recommend that you follow the system requirements listed below.

Suggested list	
CPU	AMD® Athlon 4400+
DIMM	DDR2 800 (1GB or higher)
BIOS setup	Frame Buffer Size--256MB or higher
Playback software	CyberLink® PowerDVD 7.3 (not supporting video acceleration)

File format	Best resolution	
	Windows XP	Windows Vista
Non-protected clips	1920 x 1080p	1920 x 1080p
HD-DVD	1920 x 1080p	1280 x 1080p
Blu-Ray	1280 x 1080p	1280 x 1080p

- Supported DVD formats: VC-1, H.264, and MPEG-2.
- To play HD DVD or Blu-Ray Disc, ensure to use HDCP compliant devices and softwares.

11. **ESATA port.** This port connects an external Serial ATA hard disk.
12. **VGA port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
13. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.
14. **Side Speaker Out port (gray).** This port connects the sie speakers in an 8-channel audio configuration.
15. **Microphone port (pink).** This port connects a microphone.
16. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel and 6-channel configuration, the function of this port becomes Front Speaker Out.
17. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
18. **Rear Speaker Out port (black).** This port connects the rear speakers in a 4-channel, 6-channel, or 8-channel audio configuration.
19. **Center / Subwoofer port (orange).** This port connects the center / subwoofer speakers.

Refer to the audio configuration table below for the function of the audio ports in 2, 4, 6, or 8-channel configuration.

Audio 2, 4, 6, or 8-channel configuration

Port	Headset 2-channel	4-channel	6-channel	8-channel
Light Blue	Line In	Surround Out	Line In	Line In
Lime	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mac In	Mac In
Orange	-	-	Center/ Subwoofer	Center/ Subwoofer
Black	-	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Gray	-	-	-	Side Speaker Out

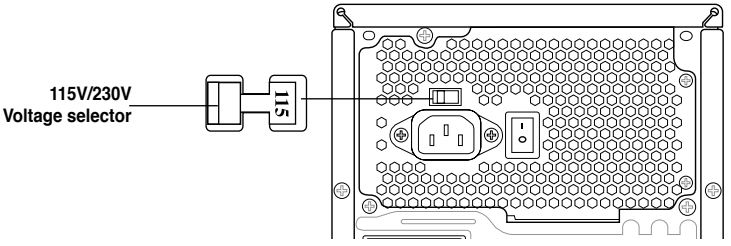
20. **Expansion slot covers.** Remove these covers when installing expansion cards.

Voltage selector

The PSU has a 115 V/230 V voltage selector switch located beside the power connector. Use this switch to select the appropriate system input voltage according to the voltage supply in your area.

If the voltage supply in your area is 100-127 V, set this switch to 115 V.

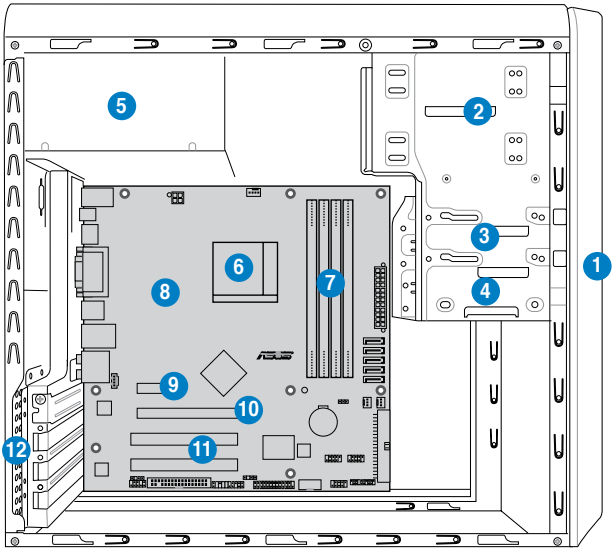
If the voltage supply in your area is 200-240 V, set this switch to 230 V.



Setting the switch to 115V in a 230V environment or 230V in a 115V environment will seriously damage the system!

1.4 Internal components

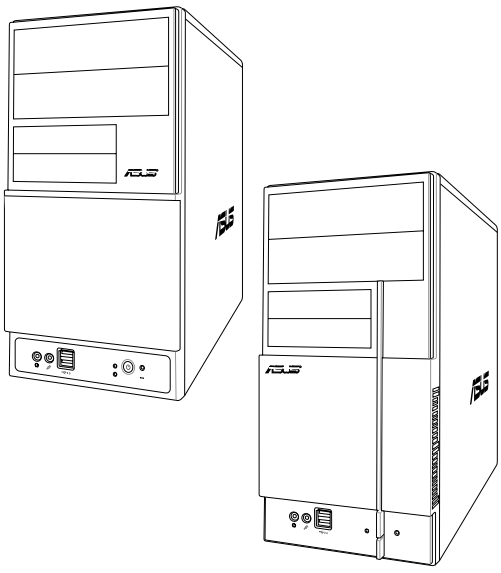
The illustration below is the internal view of the system when you remove the top cover and the power supply unit. The installed components are labeled for your reference. Proceed to Chapter 2 for instructions on installing additional system components.



1. Front panel cover
2. 5.25-inch optical drive bays
3. Floppy disk drive bay
4. Hard disk drive bay
5. Power supply unit
6. CPU socket
7. DIMM sockets
8. ASUS motherboard
9. PCI Express x1 slot
10. PCI Express x16 slot
11. PCI slots
12. Metal bracket lock

Chapter 2

This chapter provides step-by-step instructions on how to install components in the system.



Basic installation

2.1 Preparation

Before you proceed, make sure that you have all the components you plan to install in the system.

Basic components to install

1. Central Processing Unit (CPU)
2. DDR2 Dual Inline Memory Module (DIMM)
3. Expansion card(s)
4. Hard disk drive
5. Optical drive
6. Floppy disk drive

Tool

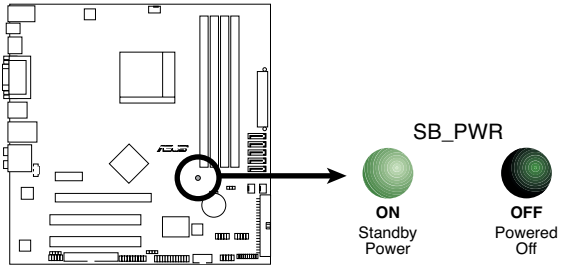
Phillips (cross) screw driver

2.2 Before you proceed

Take note of the following precautions before you install components into the system.

- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

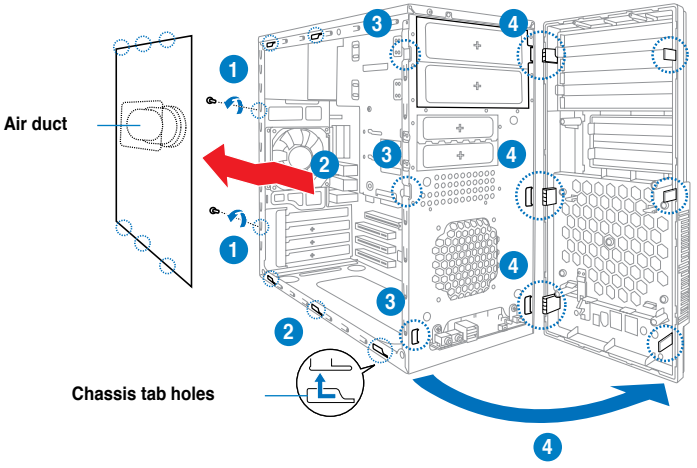
The motherboard comes with an onboard standby power LED. This LED lights up to indicate that the system is ON, in sleep mode or in soft-off mode, and not powered OFF. Unplug the power cable from the power outlet and make sure that the standby power LED is OFF before installing any system component.



Onboard LED

2.3 Removing the side cover and front panel assembly

1. Remove the cover screws on the rear panel.
2. Pull the side cover toward the rear panel until its hooks disengage from the chassis tab holes. Set the side cover aside.
3. Locate the front panel assembly hooks, then lift them until they disengage from the chassis.
4. Swing the front panel assembly to the right, until the hinge-like tabs on the right side of the assembly are exposed.
5. Remove the front panel assembly, then set aside.



2.4 Central Processing Unit (CPU)

The motherboard comes with a 940-pin AM2+ socket designed for the AMD Athlon™ 64 X2/Athlon™ 64/Sempron™ processor.

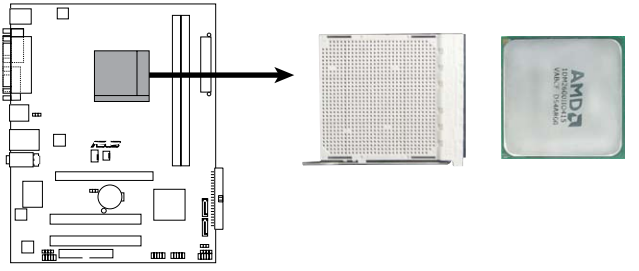
The AM2+ socket has a different pinout from the 940-pin socket designed for the AMD Opteron™ processor. Make sure you use a CPU is designed for the AM2+ socket. The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

AM2+ socket is backward compatible with AM2 socket.

2.4.1 Installing the CPU

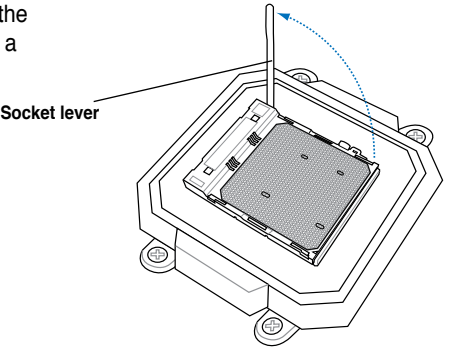
To install a CPU:

1. Locate the CPU socket on the motherboard.



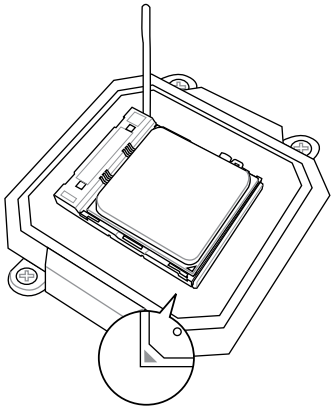
CPU Socket AM2+

2. Unlock the socket by pressing the lever sideways, then lift it up to a 90º angle.



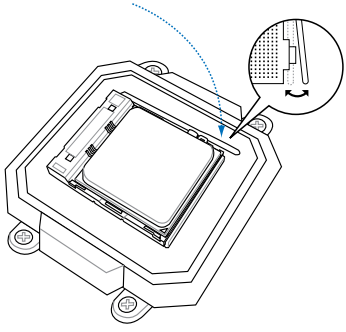
Make sure that the socket lever is lifted up to a 90º angle; otherwise, the CPU will not fit in completely.

3. Position the CPU above the socket such that the CPU corner with the gold triangle matches the socket corner with a small triangle.
4. Carefully insert the CPU into the socket until it fits in place.



Please make sure your CPU is fully plugged-in to reduce abnormal symptom.

5. When the CPU is in place, push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.
6. Install a CPU heatsink and fan following the instructions that came with the heatsink package.



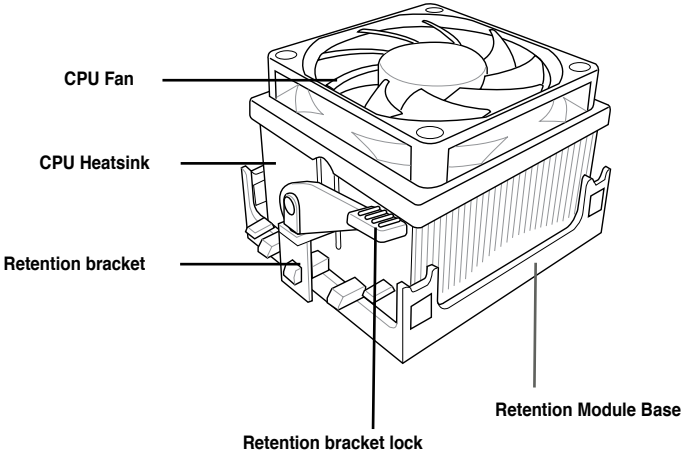
2.4.2 Installing the heatsink and fan

Make sure that you use only AMD-certified heatsink and fan assembly.

Follow these steps to install the CPU heatsink and fan.

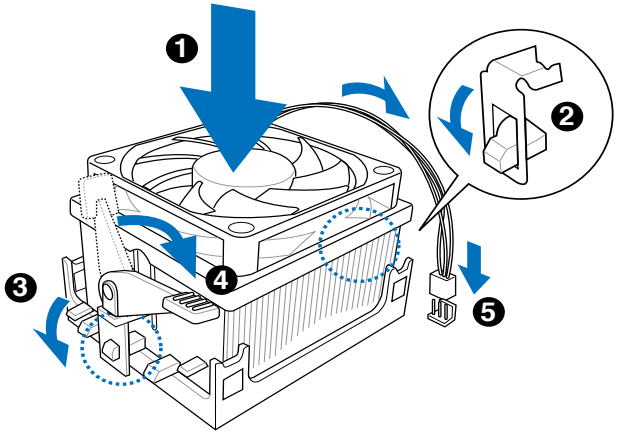
1. Place the heatsink on top of the installed CPU, making sure that the heatsink fits properly on the retention module base.

- The retention module base is already installed on the motherboard upon purchase.
- You do not have to remove the retention module base when installing the CPU or installing other motherboard components.
- If you purchased a separate CPU heatsink and fan assembly, make sure that a Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.



Your boxed CPU heatsink and fan assembly should come with installation instructions for the CPU, heatsink, and the retention mechanism. If the instructions in this section do not match the CPU documentation, follow the latter.

2. Attach one end of the retention bracket to the retention module base.



3. Align the other end of the retention bracket (near the retention bracket lock) to the retention module base. A clicking sound denotes that the retention bracket is in place.

Make sure that the fan and heatsink assembly perfectly fits the retention mechanism module base, otherwise you cannot snap the retention bracket in place.

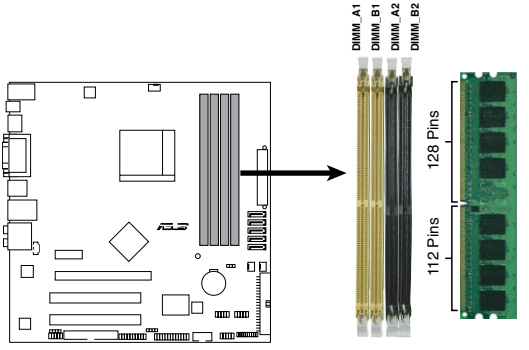
4. Push down the retention bracket lock on the retention mechanism to secure the heatsink and fan to the module base.
5. When the fan and heatsink assembly is in place, connect the CPU fan cable to the connector on the motherboard labeled CPU_FAN.

Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector.

2.5 Installing a DIMM

The system motherboard comes with four Double Data Rate 2 (DDR2) Dual Inline Memory Module (DIMM) sockets.

The following figure illustrates the location of the sockets:



240-pin DDR2 DIMM Sockets

Channel	Sockets
Channel A	DIMM_A1 and DIMM A2
Channel B	DIMM_B1 and DIMM B2

2.5.1 Memory configurations

You may install 256 MB, 512 MB, 1 GB, and 2 GB unbuffered ECC and non-ECC DDR2 DIMMs into the DIMM sockets.

Recommended Memory Configurations

Mode	Sockets			
	DIMM_A1	DIMM_B1	DIMM_A2	DIMM_B2
Single-Channel	–	Populated	–	–
	Populated	–	–	–
Dual-channel (1)	Populated	Populated	–	–
Dual-channel (2)	Populated	Populated	Populated	Populated

- When using only one memory module, start installing the DDR2 DIMM from slot DIMM_A1 or DIMM_B1 for better overclocking capability.
- For dual-channel configuration (2), you may:
  - install identical DIMMs in all four sockets OR
  - install identical DIMM pair in DIMM_A1 and DIMM_B1 (yellow sockets) and another identical DIMM pair in DIMM_A2 and DIMM_B2 (black sockets)
- Due to the chipset's limitation, the 1066 MHz memory modules run at 1066 MHz only when:
  - two 1066 MHz memory modules installed in the same colored-slots (either in the yellow slots or black slots); and
  - one 1066 MHz memory module installed in any of the slots.

  In other cases, the 1066 MHz memory modules can only run at 800 MHz.
- Always use identical DDR2 DIMM pairs for dual channel mode. For optimum compatibility, we recommend that you obtain memory modules from the same vendor.
- If you are using a Windows 32-bit version operating system (e.g. 32-bit Windows, 32-bit Vista), the system will allocate a certain amount of memory space for system devices.
- When installing total memory of 4GB capacity or more, Windows® 32-bit operation system may only recognize less than 3GB. Hence, a total installed memory of less than 3GB is recommended.

The motherboard can support 8 GB physical memory on the operating system listed below. You may install a maximum of 2 GB DIMMs on each slot.

64-bit
Windows® XP Professional x64 Edition
Windows® Vista x64 Edition

Qualified Vendors Lists (QVL)

DDR2-533 MHz capability

Size	Vendor	Model	CL	Brand	SS/ DS	Component	DIMM support		
							A*	B*	C*
512MB	Kingston	KVR533D2N4/512	N/A	Infineon	SS	HYB18T512800AF3733336550		·	·
512MB	Samsung	M378T6553BG0-CD5	4	Samsung	SS	K4T51083QB-GCD5		·	·
1G	HY	HYMP512U64CP8-C4 AB	4	Hynix	DS	HY5PS12821CFP-C4		·	·
512MB	Micron	MT 16HTF6464AG-53EB2	4	Micron	DS	D9BOM		·	·
1G	Corsair	VS1GB533D2	N/A	Corsair	DS	64M8CFEGQIB0900718		·	·
512MB	Elpida	EBE51UD8ABFA-5C-E	N/A	Elpida	SS	E5108AB-5C-E		·	·
512MB	Transcend	512MB ECC	N/A	Micron	SS	6ND22D9GCT(ECC)		·	·
512MB	ADATA	M2OAD2G3H3166I1B52	N/A	ADATA	SS	AD29608A8A-37DG20719		·	·

DDR2-667 MHz capability

Size	Vendor	Model	CL	Brand	SS/ DS	Component	DIMM support		
							A*	B*	C*
2G	Kingston	KVR667D2N5/2G	N/A	Micron	DS	7RE22 D9HNL		·	·
512MB	Samsung	M378T6553CZ3-CE6	N/A	Samsung	SS	K4T51083QC-ZCE6		·	·
2G	Qimonda	HYS64T256020EU-3S-B	5	Qimonda	DS	HTB18T1G800BF-3S3VV10907		·	·
1G	Corsair	VS1GB667D2	N/A	Corsair	DS	MID095D62864M8CEC		·	·
1G	HY	HYMP512U72AP8-Y5	N/A	Hynix	DS	HY5PS12821AFP-Y5(ECC)		·	·
1G	HY	HYMP512U64CP8-Y5 AB	5	Hynix	DS	HY5PS12521CFP-Y5		·	·
512MB	Kingmax	KLCC28F-A8KB5	N/A	Kingmax	SS	KKEA88B4LAUG-29DX		·	·
512MB	Apacer	AU512E667C5KBGC	5	Apacer	SS	AM4B5708MIJS7E0627B		·	·
1G	Apacer	AU01GE667C5KBGC	5	Apacer	DS	AM4B5708MIJS7E0627B		·	·
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20648		·	·
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20718		·	·
512MB	VDATA	M2GVD5G3H31A4I1C52	N/A	VDATA	SS	VD29608A8A-3EC20615		·	·
1G	VDATA	M2GVD5G3I41C4I1C52	N/A	VDATA	DS	VD29608A8A-3EC20620		·	·
1G	PSC	AL7E8E63B-6E1K	5	PSC	DS	A3R12E3GEF637BLC5N		·	·
1G	PSC	AL7E8F73C-6E1	5	PSC	SS	A3R1GE3CFF734MAA0J		·	·
512MB	Nanya	NT512T64U88A1BY-3C	N/A	Nanya	SS	NT5TU64M8AE-3C		·	·
1G	Kingtiger	E0736001024667	N/A	Kingtiger	DS	KTG667PS6408NST-C6 GDBTX		·	·
1G	Kingston	KHX6400D2LL/1G	N/A	Kingston	DS	Heat-Sink Package		·	·
1G	Samsung	KR M378T2953CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7		·	·
1G	Samsung	KR M391T2953CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7(ECC)		·	·
512MB	Qimonda	HYS64T64000EU-2.5-B2	6	Qimonda	SS	HYB18T512800B2F25FSS28380		·	·
1G	Micron	MT18HTF12872AY-80ED4	5	Micron	DS	6TD22D9GKX(ECC)		·	·
1G	Corsair	XMS2-6400	5	Corsair	DS	Heat-Sink Package		·	·

(continued on the next page)

Qualified Vendors Lists (QVL)

DDR2-800 MHz capability

Size	Vendor	Model	CL	Brand	SS/ DS	Component	DIMM support		
							A*	B*	C*
1G	HY	HYMP512U64AP8-S6 AA	N/A	Hynix	DS	HY5PS12821AFP-S6		·	·
2G	Apacer	78.A1GA0.9K4	5	Apacer	DS	AM4B5808CQJS8E0740E		·	·
512MB	ADATA	M20AD6G3H3160I1E58	N/A	ADATA	SS	AD29608A8A-25EG80720		·	·
1G	VDATA	M2GVD6G3I4170I1E53	N/A	VDATA	DS	VD29608A8A-25EG30647		·	·
1G	PSC	AL7E8F73C-8E1	5	PSC	SS	A3R1GE3CFF734MAA0E		·	·

DDR2-1066 MHz capability

Size	Vendor	Model	CL	Brand	SS/ DS	Component	DIMM support		
							A*	B*	C*
512MB	Kingston	KHX8500D2/512	N/A	Kingston	SS	Heat-Sink Package	·	·	·
512MB	Kingston	KHX8500D2K2/1GN	N/A	Kingston	SS	Heat-Sink Package	·	·	
1G	Kingston	KHX8500D2K2/2GN	N/A	Kingston	DS	Heat-Sink Package	·	·	·
1G	Qimonda	HYS64T128020EU-19F-C	6	Qimonda	DS	HYB18T512800CF19FFSS24313	·	·	·
1G	Corsair	CM2X1024-8500C5	N/A	Corsair	DS	Heat-Sink Package	·	·	
1G	Corsair	CM2X1024-8500C5D	5	Corsair	DS	Heat-Sink Package	·	·	·
512MB	ADATA	M2OMIDG3H3160INC5Z	5	ADATA	SS	Heat-Sink Package	·	·	·
1G	ADATA	M2OMIDG314720INC5Z	5	ADATA	DS	Heat-Sink Package	·	·	·
1G	OCZ	OCZ2N10662GK	N/A	OCZ	DS	Heat-Sink Package	·	·	·
1G	GEIL	M016E2864T2AGXAKT7G330520	5	Micron	DS	7KD22D9GMH	·	·	·

- Due to AM2+ CPU limitation, only one DDR2 1066 DIMM is supported per channel. When four DDR2 DIMMs are installed, all DIMMs run at 800MHz frequency by default for system stability.
- The default DIMM frequency depends on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.

SS - Single-sided / DS - Double - sided
DIMM support:

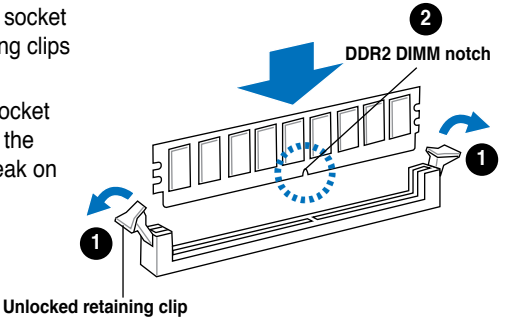
- **A*:** Supports one module inserted into any slot as Single-channel memory configuration.
- **B*:** Supports one pair of modules inserted into either the yellow slots or the black slots as one pair of Dual-channel memory configuration.
- **C*:** Supports four modules inserted into both the yellow slots and the black slots as two pairs of Dual-channel memory configuration.

Visit the ASUS website for the latest DDR2-533/667/800/1066MHz QVL.

2.5.2 Installing a DDR2 DIMM

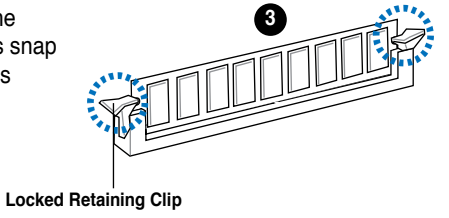
Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Unlock a DDR2 DIMM socket by pressing the retaining clips outward.
2. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.



A DDR2 DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.

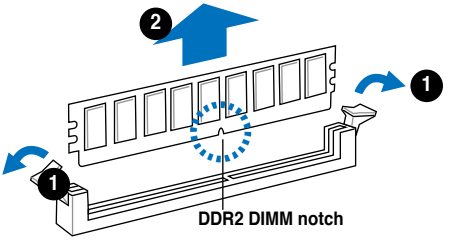
3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.



2.5.3 Removing a DDR2 DIMM

Follow these steps to remove a DIMM.

1. Simultaneously press the retaining clips outward to unlock the DIMM.



Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.

2. Remove the DIMM from the socket.

2.6 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

PCI Express Graphics Slot supports most of the ATi® and NVDIA® graphics cards, except some ATi® graphics cards of old version, such as ATi® X300, X550, X700, and X800 series.

2.6.1 Installing an expansion card

To install an expansion card:

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

2.6.2 Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 5 for information on BIOS setup.
2. Assign an IRQ to the card. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

Standard interrupt assignments

IRQ	Standard function
0	Standard timer
1	Keyboard
2	High precision event timer
3	IRQ holder for PCI steering
4	COM1
5	IRQ holder for PCI steering
6	Floppy controller
7	Printer port
8	High precision event timer
9	AMD ACPI-Compliant system
10	IRQ holder for PCI steering
11	IRQ holder for PCI steering
12	Microsoft PS/2 mouse
13	Numeric data processor
14	Primary IDE
15	Slave IDE

*** These IRQs are usually available for ISA or PCI devices.**

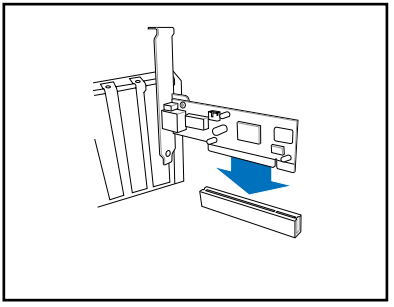
IRQ assignments for this motherboard

	LNKA	LNKB	LN0A	LN2A	LATA	UB12	UB11	LUB2	LUB0	LPMU	LSMB	LMAC	LSA0	LAZA	SGRU
PCI slot1	shared	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCI slot2	-	shared	-	-	-	-	-	-	-	-	-	-	-	-	-
PCI EX1 Slot	-	-	-	shared	-	-	-	-	-	-	-	-	-	-	-
PCI EX16 slot	-	-	shared	-	-	-	-	-	-	-	-	-	-	-	-
Onboard USB1.1 (OHCI)	-	-	-	-	-	-	-	-	shared	-	-	-	-	-	-
Onboard USB 1.1 (OHCI)	-	-	-	-	-	-	shared	-	-	-	-	-	-	-	-
Onboard USB2.0 (EHCI)	-	-	-	-	-	shared	-	-	-	-	-	-	-	-	-
Onboard USB2.0 (EHCI)	-	-	-	-	-	-	-	shared	-	-	-	-	-	-	-
Onboard IDE controller	-	-	-	-	shared	-	-	-	-	-	-	-	-	-	-
Onboard SATA controller	-	-	-	-	-	-	-	-	-	-	-	-	shared	-	-
Onboard SMBus controller	-	-	-	-	-	-	-	-	-	-	shared	-	-	-	-
Onboard Azalia controller	-	-	-	-	-	-	-	-	-	-	-	-	-	shared	-
Onboard LAN 8111B	-	-	-	-	-	-	-	-	-	-	-	shared	-	-	-
Onboard PMU device	-	-	-	-	-	-	-	-	-	shared	-	-	-	-	-
IXVE Bus Bridge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	shared
Onboard VGA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	shared

When using PCI cards on shared slots, ensure that the drivers support “Share IRQ” or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

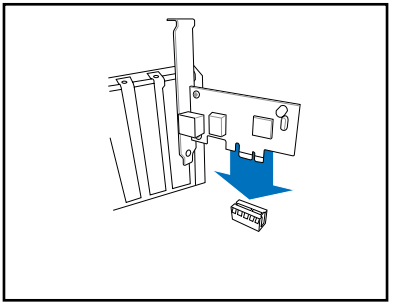
2.6.3 PCI slots

The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card installed on a PCI slot.



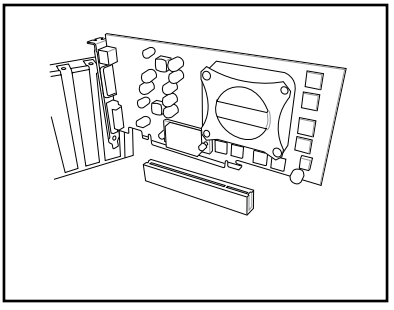
2.6.4 PCI Express x1 slot

This motherboard supports PCI Express x1 network cards, SCSI cards and other cards that comply with the PCI Express specifications. The figure shows a network card installed on the PCI Express x1 slot.



2.6.5 PCI Express x16 slot

This motherboard supports PCI Express x16 graphic cards that comply with the PCI Express specifications. The figure shows a graphics card installed on the PCI Express x16 slot.

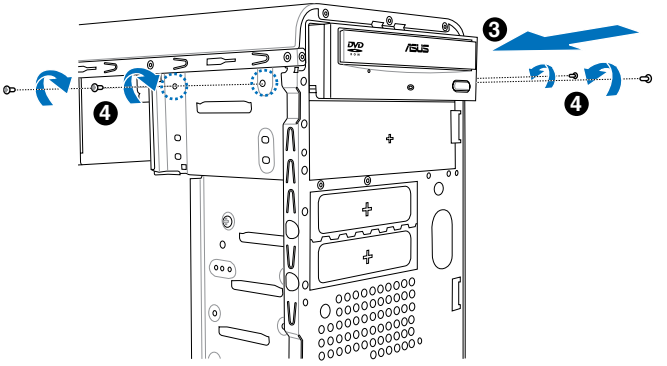


2.7 Installing an optical drive

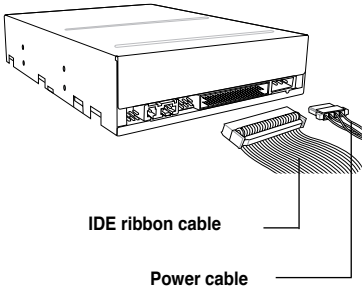
Refer to the instructions in this section if you wish to install a new optical drive.

Follow these steps to install an optical drive:

1. Place the chassis upright.
2. Remove the drive slot metal plate cover.
3. Insert the optical drive into the upper 5.25-inch drive bay and carefully push the optical drive into the bay until its screw holes align with the holes on the bay as shown.
4. Secure the optical drive with two screws on both sides of the bay.



5. Connect a power cable from the power supply to the power connector at the back of the optical drive.
6. Connect one end of the IDE ribbon cable to the IDE interface at the back of the optical drive, matching the red stripe on the cable with Pin 1 on the IDE interface.

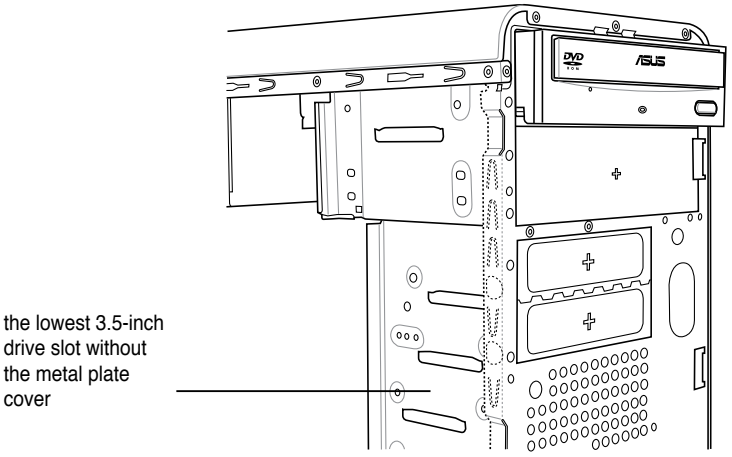


7. Connect the other end of the IDE ribbon cable to the primary IDE connector (labeled PRI_IDE) on the motherboard.
8. Remove the dummy drive slot cover from the front panel.
9. Replace the front panel.

2.8 Installing a hard disk drive

To install a Serial ATA hard disk drive:

1. Carefully place the hard disk into the the lowest 3.5-inch drive slot (without the metal plate cover).
2. Fasten the screws to secure the hard disk to the drive slot.



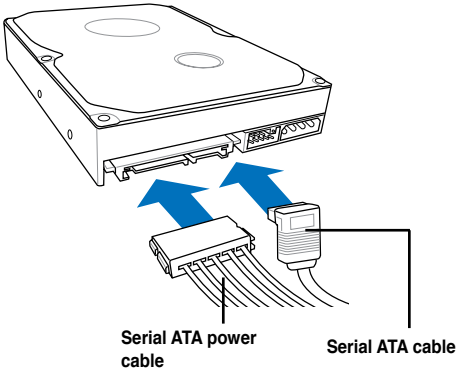
If you do not need to install the optional card reader into your system, you can install the HDD in the one of the 3.5-inch external bay (with the metal plate cover).

3. Connect one end of the Serial ATA cable to the SATA connector at the back of the drive, then connect the other end to a Serial ATA connector on the motherboard. See page 4-7 for the location of the Serial ATA connectors.

4. Connect a 15-pin Serial ATA power plug from the power supply unit to the 15-pin power connector at the back of the drive.

- OR -

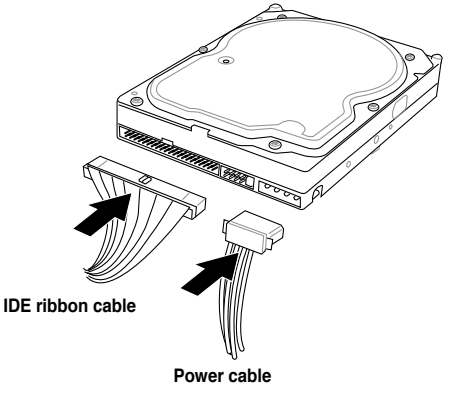
Connect a 4-pin (female) power plug from the power supply unit to the 4-pin (male) power connector at the back of the drive.



If your Serial ATA HDD has both 4-pin and 15-pin connectors at the back, use either the 15-pin SATA power adapter plug **OR** the legacy 4-pin power connector. **DO NOT** use both to prevent damage to components and to keep the system from becoming unstable.

To install an IDE hard disk drive:

1. Follow steps 1-2 of the previous section.
2. Connect the blue interface of the IDE ribbon cable to the primary IDE connector (blue connector labeled PRI_IDE) on the motherboard. See page 4-6 for the location of the connector.



- If you will install only one hard disk drive, make sure to configure your hard disk drive as Master device before connecting the IDE cable and power plug. Refer to the HDD documentation on how to set the drive as a Master device.
- If you will install two IDE hard disk drives, configure the other device as Slave.

3. Connect the gray interface of the IDE ribbon cable to the IDE connector on the drive.
4. If you install two IDE hard disk drives, connect the black interface of the IDE ribbon cable to the IDE connector on the second (Slave) IDE hard disk drive.
5. Connect a 4-pin power plug from the power supply unit to the power connector at the back of the drive(s).

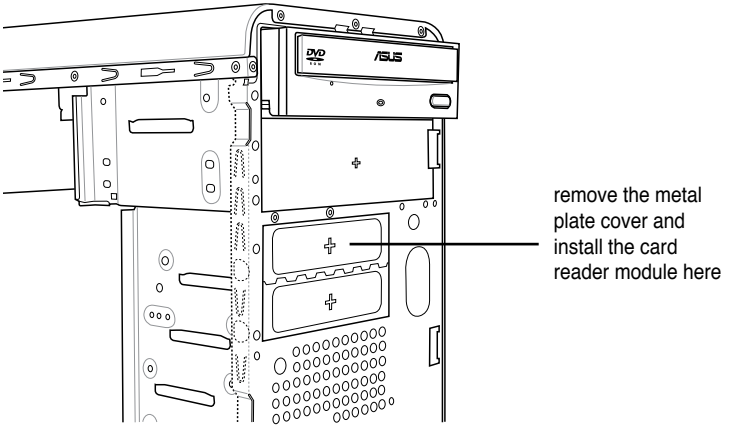
2.9 Installing the card reader

An optional card reader module (see the figure below) is available with the system. If you want to install the card reader into your system, follow the steps on the next page.

The card reader is optional and users need to purchase separately.

To install the card reader module:

1. Remove the drive slot metal plate cover.
2. Carefully insert the card reader module into the 3.5-inch bay until the screw holes align with the holes on the bay.
3. Secure the card reader module with two screws on both sides.



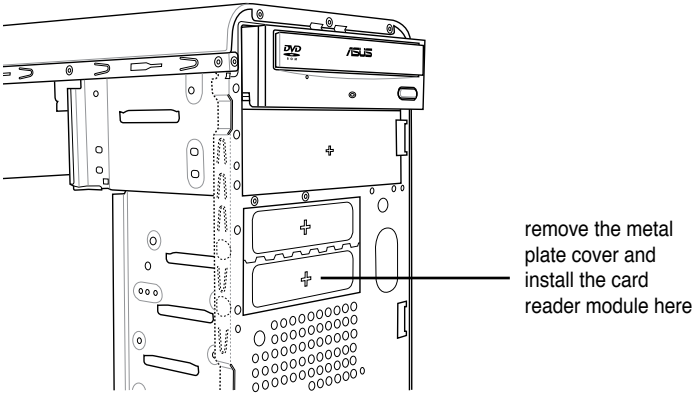
4. Connect the USB cable of the card reader to the USB connector on the motherboard.

2.10 Installing a floppy disk drive

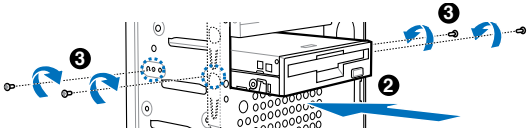
The V2/V3-M3N8200 system comes with one 3.25-inch drive bay for a floppy disk drive.

To install a floppy disk drive:

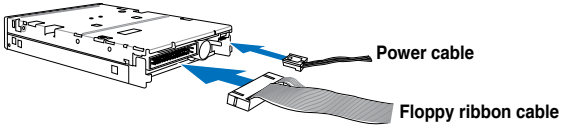
1. Remove the drive slot metal plate cover.



2. Carefully insert the floppy disk drive into the floppy drive bay until the screw holes align with the holes on the bay.
3. Secure the floppy disk drive with two screws on both sides.



4. Connect the floppy disk drive signal cable to the signal connector at the back of the drive.

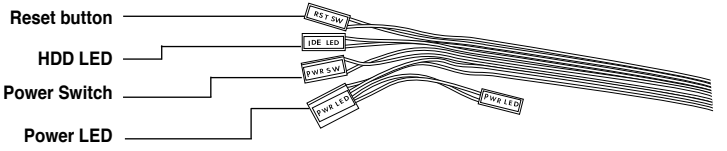


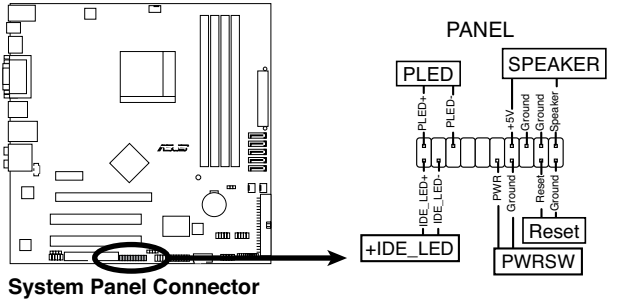
5. Connect the other end of the signal cable to the floppy disk drive connector on the motherboard. See page 4-5 for the location of the floppy disk drive connector.
6. Connect a 4-pin power cable from the power supply unit to the power connector at the back of the floppy disk drive.

2.11 Re-connecting cables

You may have disconnected some cables when you were installing components. You must re-connect these cables before you replace the chassis cover.

LED cables





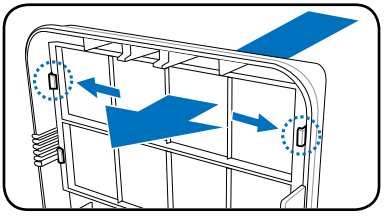
System Panel Connector

Connect the **reset button**, **power switch**, **power LED**, and **HD LED** cables to their respective leads in the system panel connector on the motherboard.

2.12 Reinstalling the cover

If you installed an optical and/or floppy disk drive, remove the bay cover(s) on the front panel assembly before reinstalling it to the chassis. To do this:

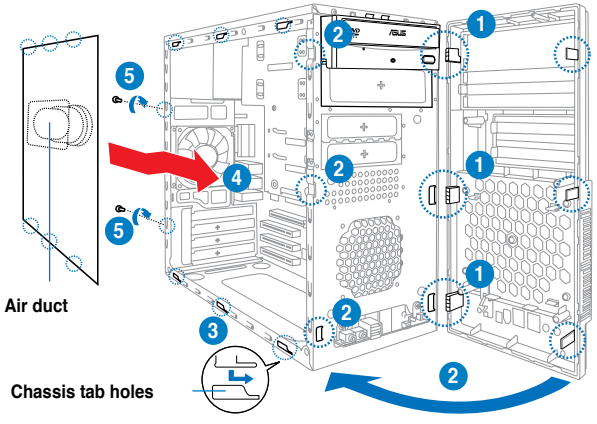
1. Locate the bay cover locks.
2. Press the locks outward to release the bay cover.
3. Push the bay cover inward, then set it aside.
4. Follow the same instructions to remove the 3.5” drive bay cover.



To reinstall the front panel assembly and side cover:

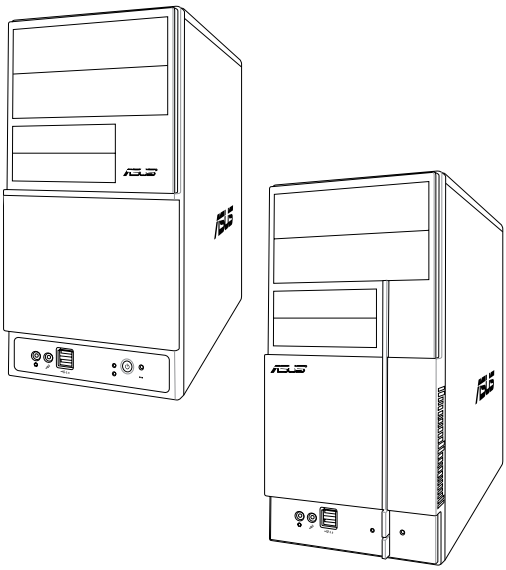
1. Insert the front panel assembly hinge-like tabs to the holes on the right side of the chassis.
2. Swing the front panel assembly to the left, then insert the hooks to the chassis until the front panel assembly fits in place.
3. Insert the six side cover hooks into the chassis tab holes .
4. Push the side cover to the direction of the front panel until it fits in place.
5. Secure the cover with two screws you removed earlier.

If the air duct interferes with the CPU fan, adjust the air duct accordingly.



Chapter 3

This chapter helps you power up the system and install drivers and utilities from the support DVD.



Starting up

3.1 Installing an operating system

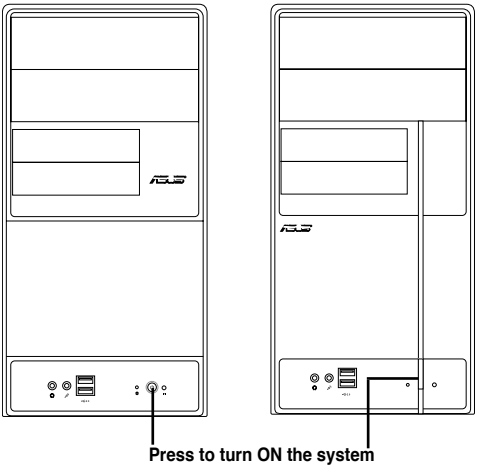
The barebone system supports Windows® 32/64-bit XP and 32/64-bit Vista operating systems (OS). Always install the latest OS version and corresponding updates so you can maximize the features of your hardware.

Because motherboard settings and hardware options vary, use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.

- Windows XP OS setup cannot recognize Serial ATA hard drives without the necessary drivers. Use the bundled floppy disk when installing Windows XP OS to a Serial ATA hard drive.
- From the Windows XP setup screen, press F6 when prompted then follow succeeding screen instructions to install the SATA drivers.

3.2 Powering up

Press the system power button (⏻) to enter the OS.



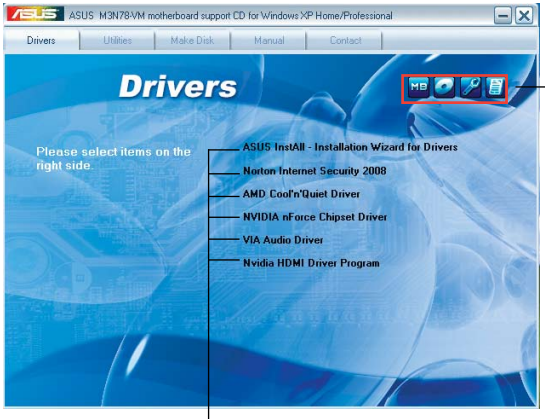
3.3 Support DVD information

The support DVD that came with the system contains useful software and several utility drivers that enhance the system features.

- Screen display and options may not be the same for different operating system versions.
- The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website for updates.

3.3.1 Running the support DVD

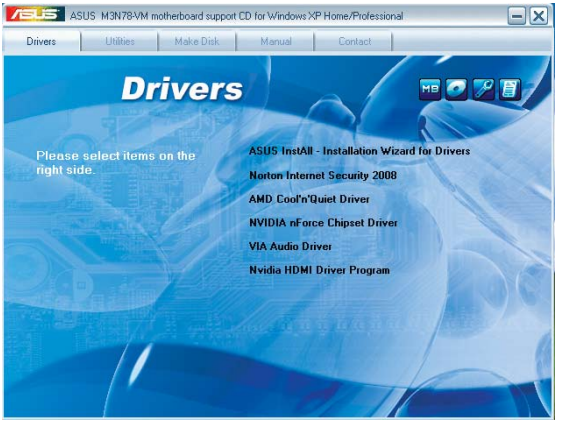
To begin using the support DVD, place the DVD in your optical drive. The DVD automatically displays the **Drivers** menu if Autorun is enabled in your computer.



If Autorun is NOT enabled in your computer, browse the contents of the support DVD/DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the CD/DVD.

3.3.2 Drivers menu

The drivers menu shows the available device drivers if the system detects installed devices. Install the necessary drivers to activate the devices.



ASUS InstAll - Installation Wizard for Drivers

Launches the ASUS InstallAll driver installation wizard.

Norton Internet Security 2008

Installs the Norton Internet Security 2008 softwawre to protect your PC from the latest online threads.

AMD Cool 'n' Quiet Driver

Installs the AMD Cool 'n' Quiet driver.

NVIDIA nForce Chipset Driver

Installs the NVIDIA nForce Chipset driver.

VIA Audio Driver

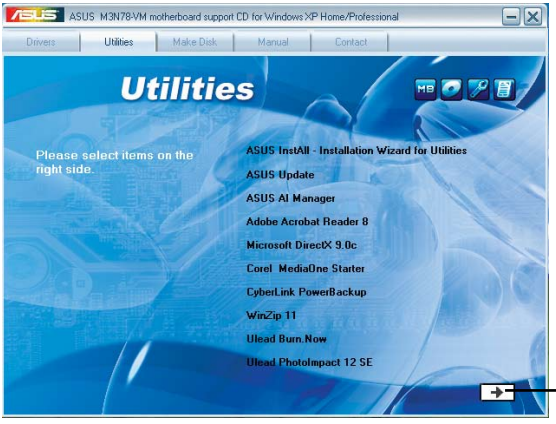
Installs the VIA Audio driver.

Nvidia HDMI Driver Program

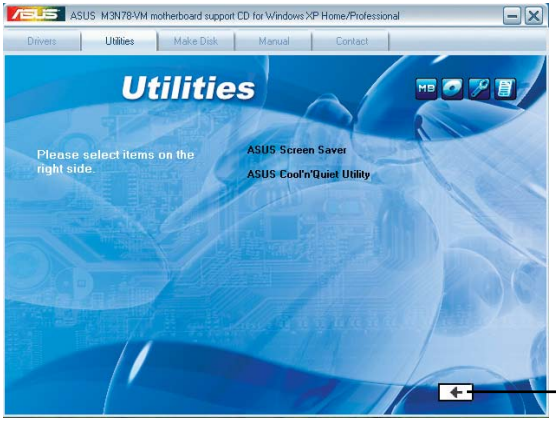
Install the Nvidia HDMI Driver Program

3.3.3 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.



Click to display the next screen.



Click to display the previous screen.

ASUS InstAll - Installation Wizard for Utilities

Launches the ASUS InstallAll utilities installation wizard.

ASUS Update

The ASUS Update utility allows you to update the motherboard BIOS in a Windows® environment. This utility requires an Internet connection either through a network or an Internet Service Provider (ISP).

ASUS AI Manager

Installs the ASUS AI Manager.

Adobe Acrobat Reader 8

Installs the Adobe® Acrobat® Reader that allows you to read documents in Portable Document Format (PDF).

Microsoft DirectX 9.0c

Installs the Microsoft® DirectX 9.0c driver. The Microsoft DirectX® 9.0c is a multimedia technology that enhances computer graphics and sound. DirectX® improves the multimedia features of you computer so you can enjoy watching TV and movies, capturing videos, or playing games in your computer. Visit the Microsoft website (www.microsoft.com) for updates.

Corel MediaOne Starter

Installs the Corel MediaOne Starter to easily manage, edit, share, and protect your multimedia data.

CyberLink PowerBackup

Installs the CyberLink PowerBackup that allows you to backup or restore your data easily.

WinZip 11

Installs the WinZip 11 software for file-compression and protection.

Ulead Burn.Now

Installs the Ulead Burn.Now software.

Ulead PhotoImpact 12 SE

Installs the Ulead PhotoImpact 12 SE software.

ASUS Screen Saver

Installs the ASUS Screen Saver.

ASUS Cool 'n' Quiet Utility

This item installs the ASUS Cool 'n' Quiet utility.

3.3.4 Make Disk menu

The Make Disk menu allows you to make a RAID driver disk.

ASUS M3N78-VM motherboard support CD for Windows XP Home/Professional
Drivers
Utilities
Make Disk
Manual
Contact
Make disk
Please select items on the right side.
NVIDIA 32bit XP SATA RAID Driver (Disk1)
NVIDIA 32bit XP SATA RAID Driver (Disk2)
NVIDIA 64bit XP SATA RAID Driver (Disk1)
NVIDIA 64bit XP SATA RAID Driver (Disk2)
NVIDIA 32bit Vista SATA RAID Driver
NVIDIA 64bit Vista SATA RAID Driver
NVIDIA 32bit XP AHCI Driver (Disk1)
NVIDIA 32bit XP AHCI Driver (Disk2)
NVIDIA 64bit XP AHCI Driver (Disk1)
NVIDIA 64bit XP AHCI Driver (Disk2)
Click to display the next screen.
ASUS M3N78-VM motherboard support CD for Windows XP Home/Professional
Drivers
Utilities
Make Disk
Manual
Contact
Make disk
Please select items on the right side.
NVIDIA 32bit Vista AHCI Driver
NVIDIA 64bit Vista AHCI Driver
JMicron JMB36X 32bit RAID/AHCI Driver
JMicron JMB36X 64bit RAID/AHCI Driver
Click to display the previous screen.

NVIDIA 32bit/64bit XP SATA RAID Driver

Allows you to create an NVIDIA® 32-bit / 64-bit XP Serial ATA (SATA) RAID driver disk for Windows® XP Operating System (OS).

NVIDIA Vista 32bit/64bit SATA RAID Driver

Allows you to create an NVIDIA® 32-bit / 64-bit Serial ATA (SATA) RAID driver disk for Windows® Vista Operating System (OS).

NVIDIA 32bit/64bit XP AHCI Driver

Allows you to create an NVIDIA® 32-bit / 64-bit AHCI driver disk for Windows® XP Operating System (OS).

NVIDIA 32bit/64bit Vista AHCI Driver

Allows you to create an NVIDIA® 32-bit / 64-bit AHCI driver disk for Windows® Vista Operating System (OS).

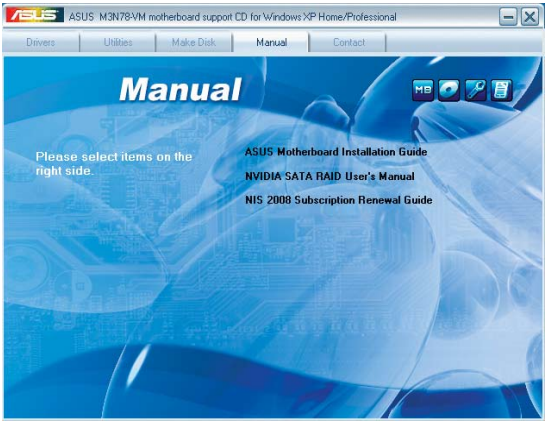
JMicron JMB36X 32bit/64bit RAID/AHCI Driver

Allows you to create a JMicron JMB36X 32bit/64bit RAID/AHCI Driver disk.

3.3.5 Manual menu

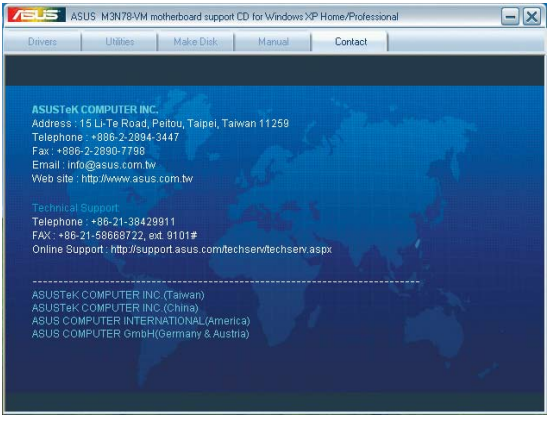
The Manual menu contains a list of supplementary user manuals. Click an item to open the folder of the user manual.

Most user manual files are in Portable Document Format (PDF). Install the Adobe® Acrobat® Reader from the Utilities menu before opening a user manual file.



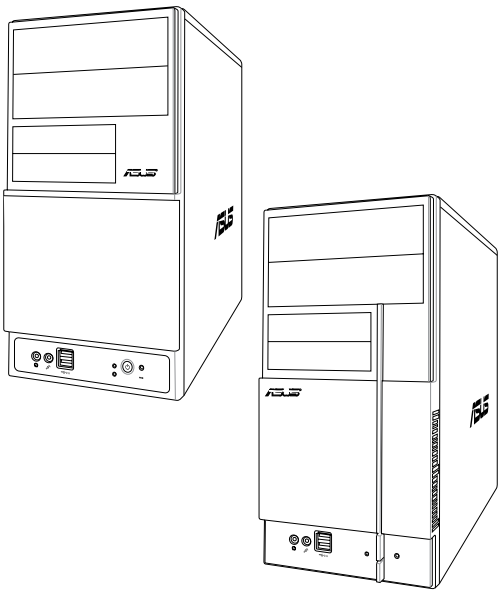
3.3.6 ASUS Contact information

Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.



Chapter 4

This chapter gives information about he motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

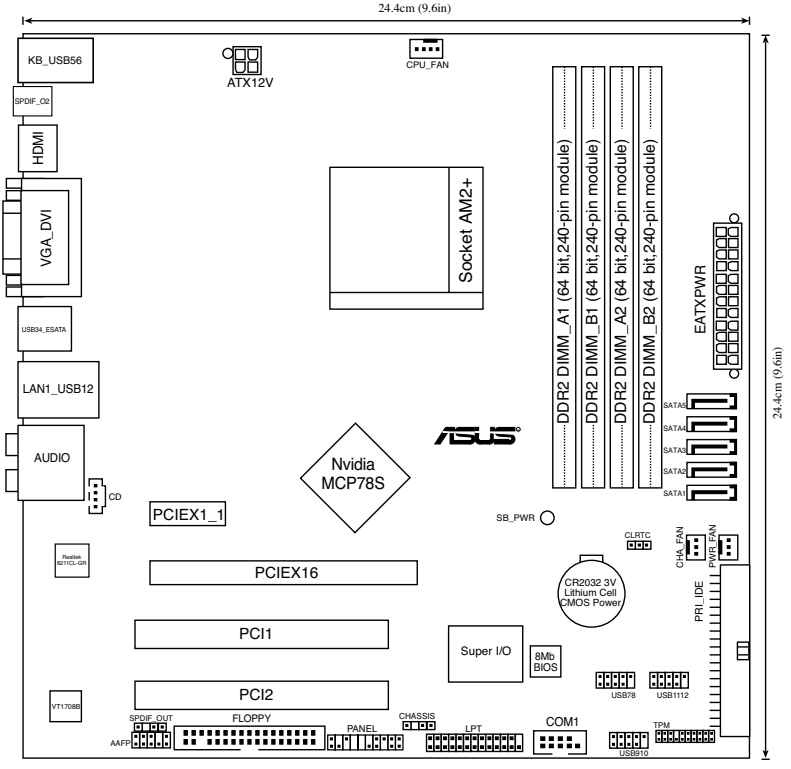


Motherboard introduction

4.1 Introduction

The Vintage V2/V3-M3N8200 barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

4.2 Motherboard layout



4.3 Jumpers

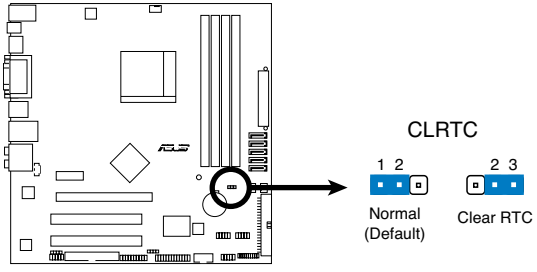
1. Clear RTC RAM (CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.

Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!



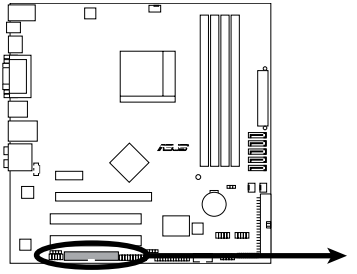
Clear RTC RAM

You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.

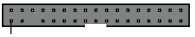
4.4 Connectors

1. Floppy disk drive connector (34-1 pin FLOPPY)
This connector is for the floppy disk drive (FDD) signal cable. Insert one end of the cable to this connector, then connect the other end to the signal connector at the back of the floppy disk drive.

- Pin 5 on the connector is removed to prevent incorrect cable connection when using an FDD cable with a covered Pin 5.
- The Floppy Disk Drive signal cable is purchased separately.



FLOPPY

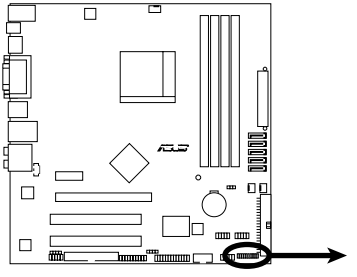


PIN1

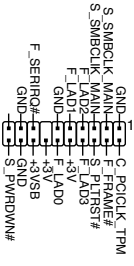
NOTE: Orient the red markings on the floppy ribbon cable to PIN 1.

Floppy Disk Drive Connector

2. TPM connector (20-1 pin TPM)
This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.



TPM



TPM Connector

The TPM model is purchased separately!

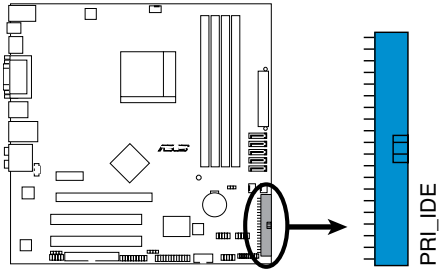
3. IDE connectors (40-1 pin PRI_IDE)

The onboard IDE connector is for an Ultra DMA 133/100/66 signal cable. There are three connectors on each Ultra DMA 133/100/66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device(s).

	Drive jumper setting	Mode of device(s)	Cable connector
Single device	Cable-Select or Master	-	Black
Two devices	Cable-Select	Master Slave	Black Gray
	Master Slave	Master Slave	Black or gray

- Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable.
- Use the 80-conductor IDE cable for Ultra DMA 133/100/66 IDE devices.

If any device jumper is set as "Cable-Select," ensure that all other device jumpers have the same setting.

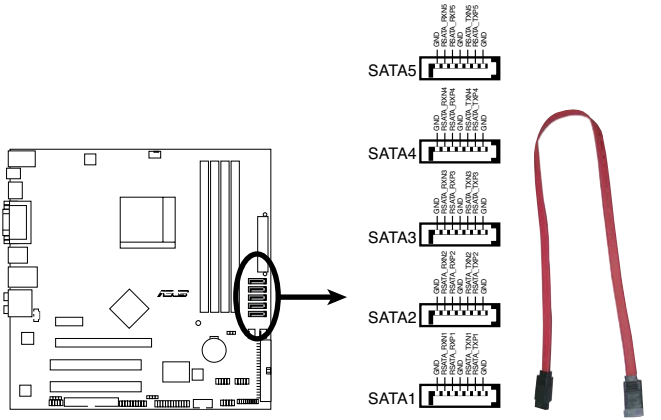


IDE Connector

4. Serial ATA connectors (7-pin SATA1 [red], SATA2 [red], SATA3 [red], SATA4 [black], SATA5 [black])

These connectors are for the Serial ATA signal cables for Serial ATA 3Gb/s hard disk and optical disk drives. The Serial ATA 3Gb/s is backward compatible with Serial ATA 1.5Gb/s specification. The data transfer rate of the Serial ATA 3Gb/s is faster than the standard parallel ATA with 133 MB/s (Ultra DMA133).

If you install Serial ATA hard disk drives, you can create a RAID 0, RAID 1, RAID 5, RAID 0+1, and JBOD configuration through the onboard controller.



SATA Connectors

Install the Windows® XP Service Pack 1 before using Serial ATA.

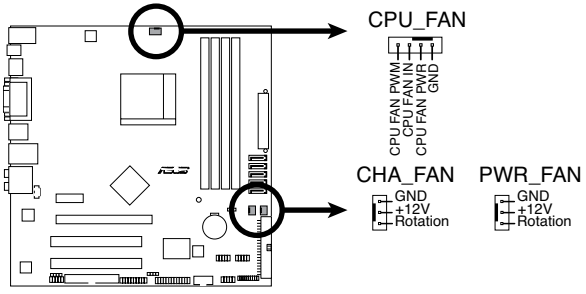
- For detailed instructions on how to configure RAID 0, RAID 1, RAID 5, and RAID 0+1, and JBOD, refer to the RAID manual in the support DVD.
- If you intend to create a Serial ATA RAID set using these connectors, set the **SATA Mode select** item in the BIOS to [RAID Mode]. See the page 2-18 for details.
- Due to the chipset limitation, SATA 4 and SATA 5 do not support IDE mode, only support AHCI and RAID mode.

5. CPU, Chassis and Power Fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN, 3-pin PWR_FAN)

The fan connectors support cooling fans of 350mA~740mA (8.88W max.) or a total of 1A~2.22A (26.64W max.) at +12V. Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.

Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors.

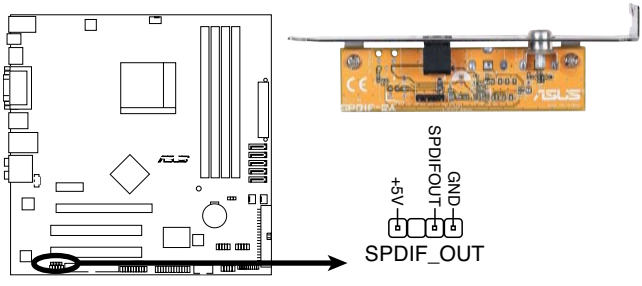
Only CPU Fan and Chassis Fan support Q-Fan.



Fan Connectors

6. Digital audio connector (4-1 pin SPDIF_OUT)

This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s). Connect the S/PDIF module cable to this connector, then install the module to a slot opening at the back of the system chassis.

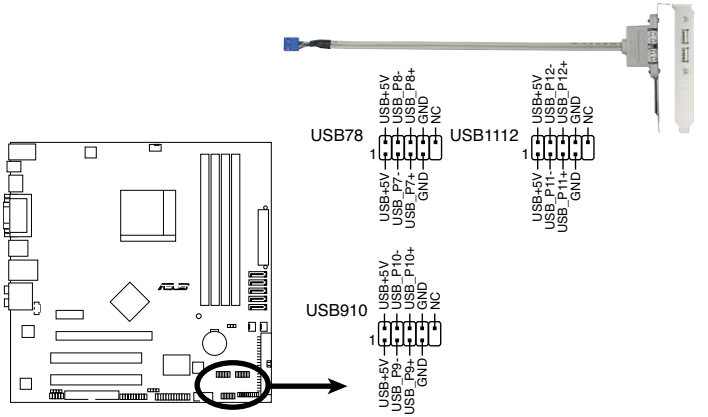


Digital Audio Connector

The S/PDIF module is purchased separately.

7. USB connectors (10-1 pin USB78, USB910, USB1112)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



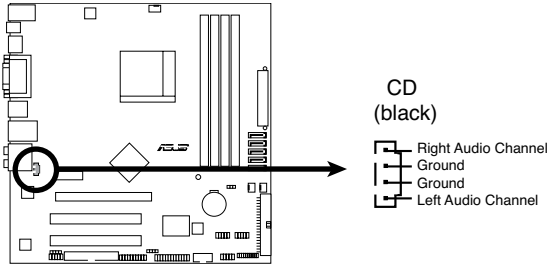
USB 2.0 Connectors

Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

The USB 2.0 module is purchased separately.

8. Optical drive audio in connector (4-pin CD)

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.

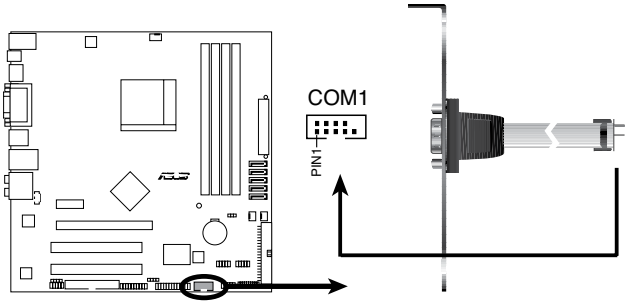


Internal Audio Connector

9. Serial port connectors (10-1 pin COM1)

The connector is for a serial (COM) port. Connect the serial port module cable to the connector, then install the module to a slot opening at the back of the system chassis.

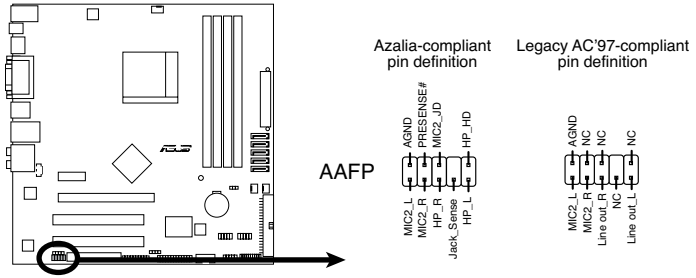
The serial port bracket (COM1) is purchased separately.



COM Port Connector

10. Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports either High Definition Audio or AC`97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.



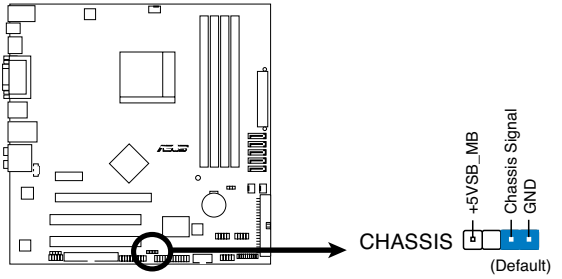
Azalia Analog Front Panel Connector

- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this connector, ensure that the **Front Panel Type** item in the BIOS is set to [HD Audio]; if you want to connect an AC`97 front panel audio module to this connector, set the item to [AC97]. See page 2-29 for details.

11. Chassis intrusion connector (4-1 pin CHASSIS)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

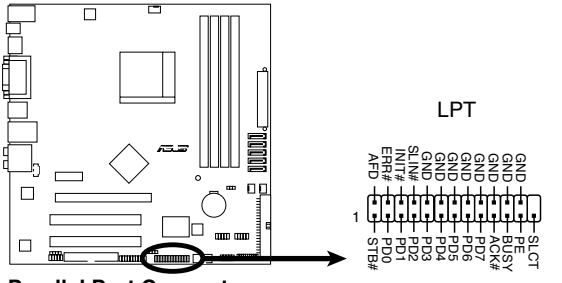
By default , the pin labeled “Chassis Signal” and “Ground” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.



Intrusion Connector

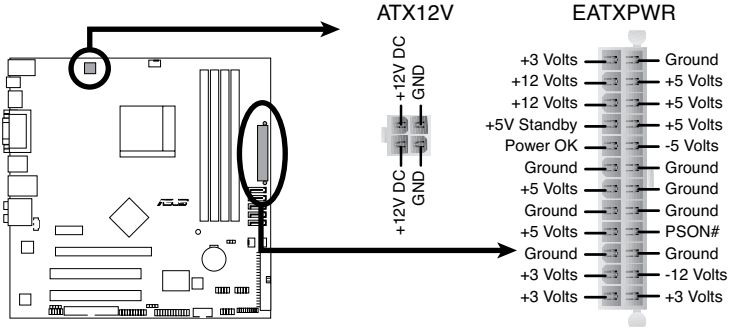
12. LPT connector

The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM PC-compatible computers.



Parallel Port Connector

13. ATX power connectors (24-pin ATX-PWRGD, 4-pin ATX12V)
These connectors are for an ATX power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

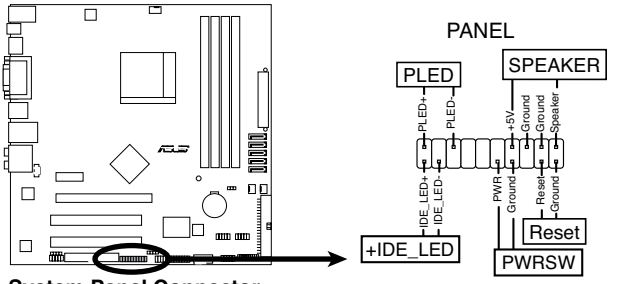


ATX Power Connector

- We recommend that you use an ATX 12 V Specification 2.0-compliant power supply unit (PSU) with a minimum of 300 W power rating. This PSU type has 24-pin and 4-pin power plugs.
- If you intend to use a PSU with 20-pin and 4-pin power plugs, ensure that the 20-pin power plug can provide at least 15 A on +12 V and that the PSU has a minimum power rating of 300 W. The system may become unstable or may not boot up if the power is inadequate.
- Do not forget to connect the 4-pin ATX +12 V power plug. Otherwise, the system will not boot up.
- We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at http://support.asus.com/PowerSupplyCalculator/PSCalculator.aspx?SLanguage=en-us for details.
- You must install a PSU with a higher power rating if you intend to install additional devices.

14. System panel connector (20-8 pin PANEL)

This connector supports several chassis-mounted functions.

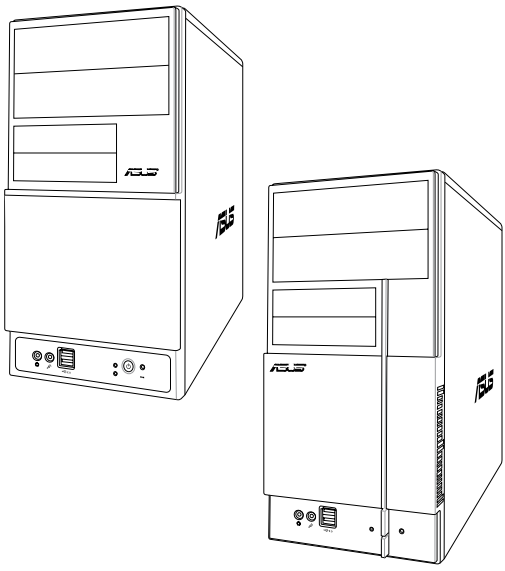


System Panel Connector

- **System power LED (2-pin PLED)**
  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.
- **Hard disk drive activity LED (2-pin +IDE_LED)**
  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.
- **System warning speaker (4-pin SPEAKER)**
  This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.
- **Power/Soft-off button (2-pin PWRSW)**
  This 2-pin connector is for the system power button. Pressing the power button turns the system ON or puts the system in SLEEP or SOFT-OFF mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.
- **Reset button (2-pin Reset)**
  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

Chapter 5

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.



BIOS setup

5.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **ASUS EZ Flash 2:** Updates the BIOS using a floppy disk, USB Flash, or the motherboard support DVD during POST.
2. **ASUS AFUDOS:** Updates the BIOS in DOS mode using a bootable floppy disk.
3. **ASUS CrashFree BIOS 3:** Updates the BIOS using a bootable floppy disk, USB flash disk or the motherboard support DVD when the BIOS file fails or gets corrupted.
4. **ASUS Update:** Updates the BIOS in Windows® environment.

Refer to the corresponding sections for details on these utilities.

Save a copy of the original motherboard BIOS file to a bootable floppy disk in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update or AFUDOS utilities.

2.1.1 Creating a bootable floppy disk

1. Do either one of the following to create a bootable floppy disk.

   DOS environment

   a. Insert a 1.44MB floppy disk into the drive.

   b. At the DOS prompt, type **format A:/S** then press <Enter>.

   Windows® XP environment

   a. Insert a 1.44 MB floppy disk to the floppy disk drive.

   b. Click **Start** from the Windows® desktop, then select **My Computer**.

   c. Select the 3 1/2 Floppy Drive icon.

   d. Click **File** from the menu, then select **Format.** A Format 3 1/2 Floppy Disk window appears.

   e. Windows® XP users: Select **Create an MS-DOS startup disk** from the format options field, then click **Start**.

Windows® Vista environment

a. Insert a formatted, high density 1.44 MB floppy disk to the floppy disk drive.

b. Click from the Windows® desktop, then select **Computer**.

c. Right-click **Floppy Disk Drive** then click **Format** to display the **Format 3 1/2 Floppy** dialog box .

d. Select the **Create an MS-DOS startup disk** check box.

e. Click **Start**.

2. Copy the original or the latest motherboard BIOS file to the bootable floppy disk.

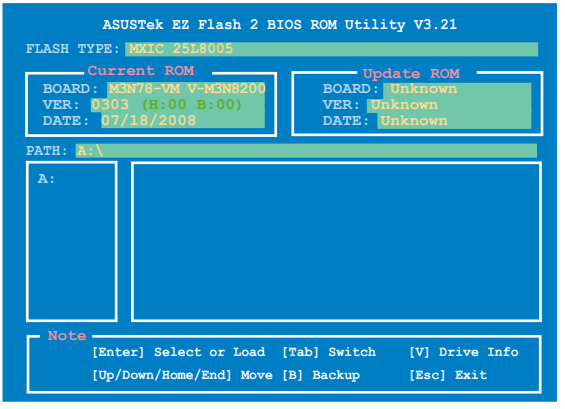
5.1.2 ASUS EZ Flash 2 utility

The ASUS EZ Flash 2 feature allows you to update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash 2 utility is built-in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self-Test (POST).

To update the BIOS using EZ Flash 2:

1. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard.
2. Save the BIOS file to a floppy disk or a USB flash disk, then restart the system.
3. You can launch the EZ Flash 2 by two methods.
   (1) Insert the floppy disk / USB flash disk that contains the BIOS file to the floppy disk drive or the USB port.

   Press <Alt> + <F2> during POST to display the following.



   (2) Enter BIOS setup program. Go to the **Tools** menu to select **EZ Flash 2** and press <Enter> to enable it.

   You can switch between drives by pressing <Tab> before the correct file is found. Then press <Enter>.
4. When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.

- This function can support devices such as USB flash disk, or floppy disk with **FAT 32/16** format only.
- Do not shut down or reset the system while updating the BIOS to prevent system boot failure!

5.1.3 AFUDOS utility

The AFUDOS utility allows you to update the BIOS file in DOS environment using a bootable floppy disk with the updated BIOS file. This utility also allows you to copy the current BIOS file that you can use as backup when the BIOS fails or gets corrupted during the updating process.

Copying the current BIOS

To copy the current BIOS file using the AFUDOS utility:

- Ensure that the floppy disk is not write-protected and has at least 1024KB free space to save the file.
- The succeeding BIOS screens are for reference only. The actual BIOS screen displays may not be same as shown.

1. Copy the AFUDOS utility (afudos.exe) from the motherboard support DVD to the bootable floppy disk you created earlier.
2. Boot the system in DOS mode, then at the prompt type:

   afudos /o[filename]

   where the [filename] is any user-assigned filename not more than eight alphanumeric characters for the main filename and three alphanumeric characters for the extension name.

3. Press <Enter>. The utility copies the current BIOS file to the floppy disk.

```
A:\>afudos /oOLDBIOS1.rom
AMI Firmware Update Utility - Version 1.19(ASUS V2.29(03.11.24BB))
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.
    Reading flash ..... done
    Write to file...... ok
A:\>
```

The utility returns to the DOS prompt after copying the current BIOS file.

Updating the BIOS file

To update the BIOS file using the AFUDOS utility:

1. Visit the ASUS website (www.asus.com) and download the latest BIOS file for the motherboard. Save the BIOS file to a bootable floppy disk.

Write the BIOS filename on a piece of paper. You need to type the exact BIOS filename at the DOS prompt.

2. Copy the AFUDOS utility (afudos.exe) from the motherboard support DVD to the bootable floppy disk you created earlier.
3. Boot the system in DOS mode, then at the prompt type:

   `afudos /i[filename]`

   where [filename] is the latest or the original BIOS file on the bootable floppy disk.

```
A:\>afudos /iM3N8200.ROM
```

4. The utility verifies the file and starts updating the BIOS.

```
A:\>afudos /iM3N8200.ROM
AMI Firmware Update Utility - Version 1.19(ASUS V2.36(03.11.24BB))
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.

    WARNING!! Do not turn off power during flash BIOS
    Reading file ....... done
    Reading flash ...... done

    Advance Check ......
    Erasing flash ...... done
    Writing flash ...... 0x0008CC00 (9%)
```

Do not shut down or reset the system while updating the BIOS to prevent system boot failure!

5. The utility returns to the DOS prompt after the BIOS update process is completed. Reboot the system from the hard disk drive.

```
A:\>afudos /iM3N8200.ROM
AMI Firmware Update Utility - Version 1.19(ASUS V2.36(03.11.24BB))
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.

    WARNING!! Do not turn off power during flash BIOS
    Reading file ....... done
    Reading flash ...... done

    Advance Check ......
    Erasing flash ...... done
    Writing flash ...... done
    Verifying flash .... done

    Please restart your computer

A:\>
```

5.1.4 ASUS CrashFree BIOS 3 utility

The ASUS CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using the motherboard support DVD , the floppy disk or the USB flash disk that contains the updated BIOS file.

- Prepare the motherboard support DVD, the floppy disk or the USB flash disk containing the updated motherboard BIOS before using this utility.
- Ensure that you rename the original or updated BIOS file in the floppy disk or the USB flash disk to **M3N8200.ROM.**

Recovering the BIOS from a floppy disk

To recover the BIOS from a floppy disk:

1. Turn on the system.
2. Insert the floppy disk with the original or updated BIOS file to the floppy disk drive.
3. The utility displays the following message and automatically checks the floppy disk for the original or updated BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
```

When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
Floppy found!
Reading file "M3N8200.ROM". Completed.
Start flashing...
```

DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

4. Restart the system after the utility completes the updating process.

Recovering the BIOS from the support DVD

To recover the BIOS from the support DVD:

1. Remove any floppy disk from the floppy disk drive, then turn on the system.
2. Insert the support DVD to the optical drive.
3. The utility displays the following message and automatically checks the floppy disk for the original or updated BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
```

When no floppy disk is found, the utility automatically checks the optical drive for the original or updated BIOS file. The utility then updates the corrupted BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
Floppy not found!
Checking for DVD-ROM...
DVD-ROM found!
Reading file "M3N8200.ROM". Completed.
Start flashing...
```

4. Restart the system after the utility completes the updating process.

The recovered BIOS may not be the latest BIOS version for this motherboard. Visit the ASUS website (www.asus.com) to download the latest BIOS file.

Recovering the BIOS from the USB flash disk

To recover the BIOS from the USB flash disk:

1. Insert the USB flash disk that contains BIOS file to the USB port.
2. Turn on the system.
3. The utility will automatically checks the devices for the BIOS file When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.
4. Restart the system after the utility completes the updating process.

- Only the USB flash disk with FAT 32/16 format and single partition can support ASUS CrashFree BIOS 3. The device size should be smaller than 8GB.
- DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

5.1.5 ASUS Update utility

The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment. The ASUS Update utility allows you to:

- Save the current BIOS file
- Download the latest BIOS file from the Internet
- Update the BIOS from an updated BIOS file
- Update the BIOS directly from the Internet, and
- View the BIOS version information.

This utility is available in the support DVD that comes with the motherboard package.

ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).

Installing ASUS Update

To install ASUS Update:

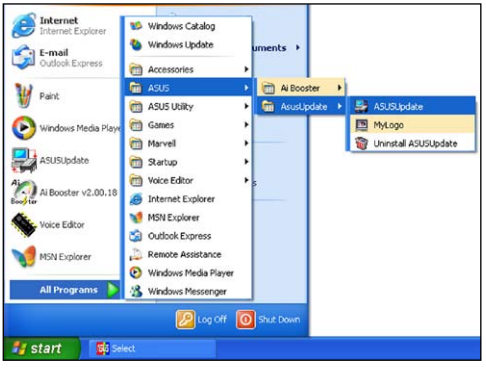
1. Place the support DVD in the optical drive. The **Drivers** menu appears.
2. Click the Utilities tab, then click **Install ASUS Update**. See page 3-4 for the **Utilities** screen menu.
3. The ASUS Update utility is copied to your system.

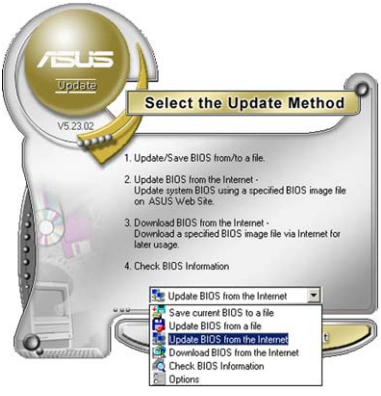
Quit all Windows® applications before you update the BIOS using this utility.

Updating the BIOS through the Internet

To update the BIOS through the Internet:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.




ASUS
Update
V5.23.02
Select the Update Method
1. Update/Save BIOS from/to a file.
2. Update BIOS from the Internet - Update system BIOS using a specified BIOS image file on ASUS Web Site.
3. Download BIOS from the Internet - Download a specified BIOS image file via Internet for later usage.
4. Check BIOS Information
Update BIOS from the Internet
Save current BIOS to a file
Update BIOS from a file
Update BIOS from the Internet
Download BIOS from the Internet
Check BIOS Information
Options

2. Select **Update BIOS from the Internet** option from the drop-down menu, then click **Next**.

ASUS
Update
V5.23.02
Select the Update Server
Before Continue, please make sure that your system is connected to the Internet. You can then choose a web site by yourself or click AutoSelect button, ASUS Update will choose the best site based on network traffic automatically for you.
Passive
Proxy Setting
Auto Select
ftp.asus.com.tw
Back
Cancel
Next

3. Select the ASUS FTP site nearest you to avoid network traffic, or click **Auto Select**. Click **Next**.

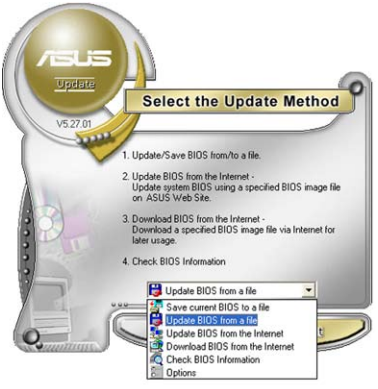
4. From the FTP site, select the BIOS version that you wish to download. Click **Next**.
5. Follow the screen instructions to complete the update process.

The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.

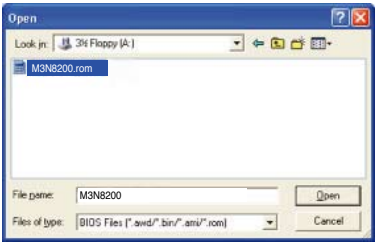
Updating the BIOS through a BIOS file

To update the BIOS through a BIOS file:

1. Launch the ASUS Update utility from the Windows® desktop by clicking Start **> Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.
2. Select **Update BIOS from a file** option from the drop-down menu, then click **Next**.


Update
V5.27.01
Select the Update Method
1. Update/Save BIOS from/to a file.
2. Update BIOS from the Internet - Update system BIOS using a specified BIOS image file on ASUS Web Site.
3. Download BIOS from the Internet - Download a specified BIOS image file via Internet for later usage.
4. Check BIOS Information
Update BIOS from a file
Save current BIOS to a file
Update BIOS from a file
Update BIOS from the Internet
Download BIOS from the Internet
Check BIOS Information
Options

3. Locate the BIOS file from the **Open** window, then click **Open**.
4. Follow the screen instructions to complete the update process.



5.2 BIOS setup program

This motherboard supports a programmable Serial Peripheral Interface (SPI) chip that you can update using the provided utility described in section “2.1 Managing and updating your BIOS”.

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to “Run Setup”. This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the SPI chip.

The SPI chip on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On Self-Test (POST) to enter the Setup utility. Otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, reboot the system by doing any of the following procedures:

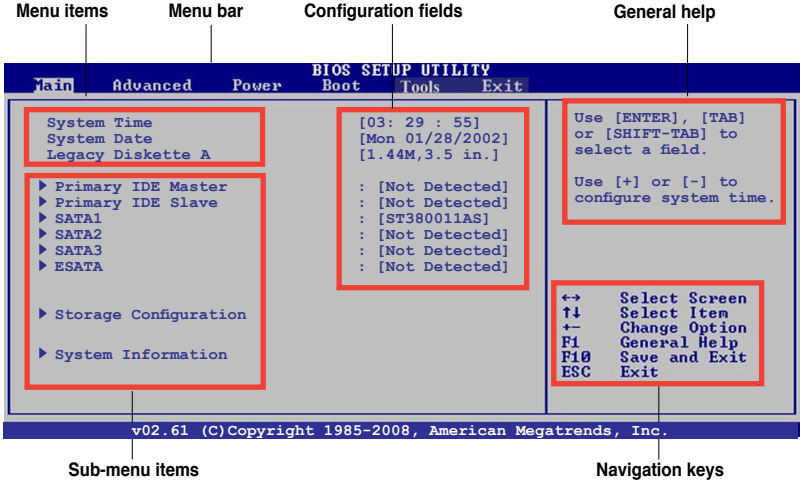
- Restart using the OS standard shut-down procedure.
- Press <Ctrl>+<Alt>+<Del> simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on.

Using the **power button**, **reset button**, or the **<Ctrl>+<Alt>+<Del>** keys to force reset from a running operating system can cause damage to your data or system. We recommend to always shut-down the system properly from the operating system.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.

- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Default Settings** item under the Exit Menu. See section “2.8 Exit Menu.”
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard.

5.2.1 BIOS menu screen



5.2.2 Menu bar

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration
Advanced	For changing the advanced system settings
Power	For changing the advanced power management (APM) configuration
Boot	For changing the system boot configuration
Tools	For setting EZ Flash 2
Exit	For selecting the exit options and loading default settings

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

- The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the ASUS website (www.asus.com) to download the latest BIOS information.

5.2.3 Navigation keys

At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

Some of the navigation keys differ from one screen to another.

5.2.4 Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items.

5.2.5 Sub-menu items

A solid triangle before each item on any menu screen means that the iteam has a sub-menu. To display the sub-menu, select the item and press <Enter>.

5.2.6 Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

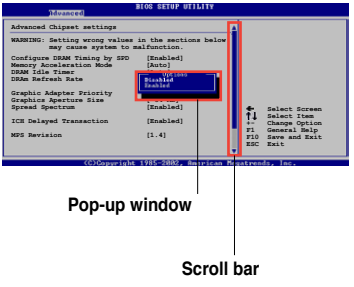
A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to "5.2.7 Pop-up window."

5.2.7 Pop-up window

Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item.

5.2.8 Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> /<Page Down> keys to display the other items on the screen.



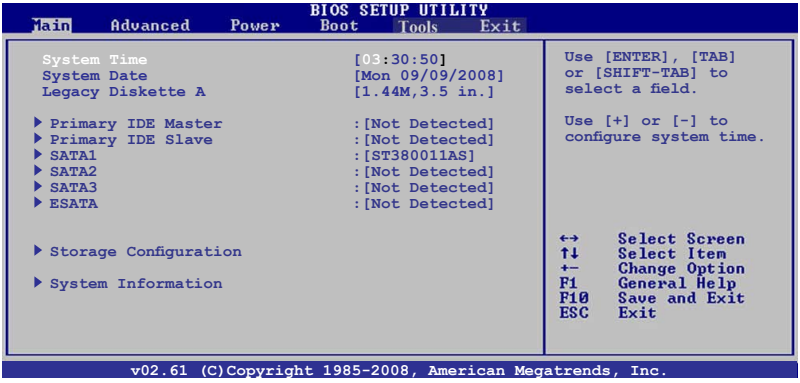
5.2.9 General help

At the top right corner of the menu screen is a brief description of the selected item.

5.3 Main menu

When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.

Refer to section “5.2.1 BIOS menu screen” for information on the menu screen items and how to navigate through them.


BIOS SETUP UTILITY
Main Advanced Power Boot Tools Exit
System Time [03:30:50]
System Date [Mon 09/09/2008]
Legacy Diskette A [1.44M,3.5 in.]
Primary IDE Master :[Not Detected]
Primary IDE Slave :[Not Detected]
SATA1 :[ST380011AS]
SATA2 :[Not Detected]
SATA3 :[Not Detected]
ESATA :[Not Detected]
Storage Configuration
System Information
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system time.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
v02.61 (C)Copyright 1985-2008, American Megatrends, Inc.

5.3.1 System Time [xx:xx:xx]

Allows you to set the system time.

5.3.2 System Date [Day xx/xx/xxxx]

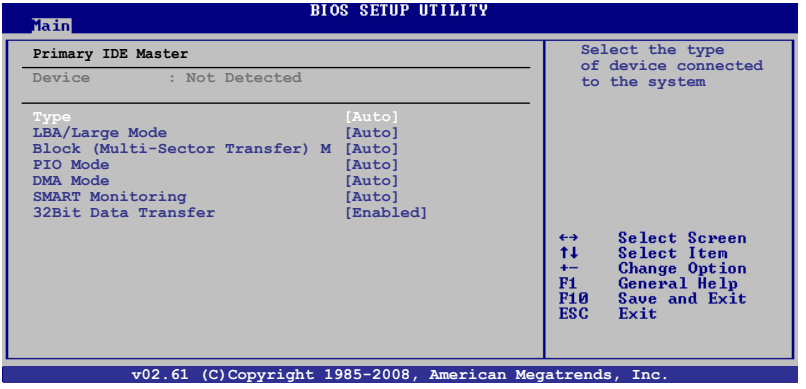
Allows you to set the system date.

5.3.3 Legacy Diskette A [1.44M, 3.5 in.]

Sets the type of floppy drive installed. Configuration options: [Disabled] [360K , 5.25 in.] [1.2M, 5.25 in.] [720K, 3.5 in] [1.44M 3.5 in] [2.88M, 3.5 in]

5.3.4 Primary IDE Master/Slave, SATA1~3, ESATA

While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press <Enter> to display the IDE device information.



The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show N/A if no IDE device is installed in the system.

Type [Auto]

Selects the type of IDE drive. Setting to Auto allows automatic selection of the appropriate IDE device type. Select CDROM if you are specifically configuring a CD-ROM drive. Select ARMD (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive. Configuration options: [Not Installed] [Auto] [CDROM] [ARMD]

This item does not appear when you select **SATA1/SATA2/SATA3/ESATA** devices.

LBA/Large Mode [Auto]

Enables or disables the LBA mode. Setting to Auto enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Disabled] [Auto]

Block (Multi-Sector Transfer) M [Auto]

Enables or disables data multi-sectors transfers. When set to Auto, the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to [Disabled], the data transfer from and to the device occurs one sector at a time.
Configuration options: [Disabled] [Auto]

PIO Mode [Auto]

Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4]

DMA Mode [Auto]

Selects the DMA mode. Configuration options: [Auto]

SMART Monitoring [Auto]

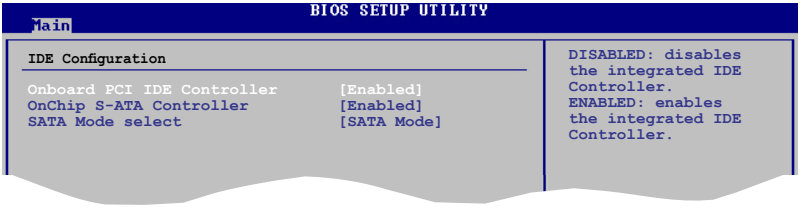
Enables or disables the S.M.A.R.T. (Self Monitoring and Reporting Technology) capability of your hard drive. This features allows your system to report read/write errors of the hard drive and to issue warnings when a third party hardware monitor utility is installed. Configuration options: [Auto] [Disabled] [Enabled]

32Bit Data Transfer [Enabled]

Enables or disables 32-bit data transfer. Configuration options: [Disabled] [Enabled]

5.3.5 Storage Configuration

The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter> if you wish to configure the item.


BIOS SETUP UTILITY
Main
IDE Configuration
Onboard PCI IDE Controller [Enabled]
OnChip S-ATA Controller [Enabled]
SATA Mode select [SATA Mode]
DISABLED: disables the integrated IDE Controller.
ENABLED: enables the integrated IDE Controller.

Onboard PCI IDE Controller [Enabled]

Allows you to enable or disable the onboard PCI IDE controller.
Configuration options: [Enabled] [Disabled]

OnChip S-ATA Controller [Enabled]

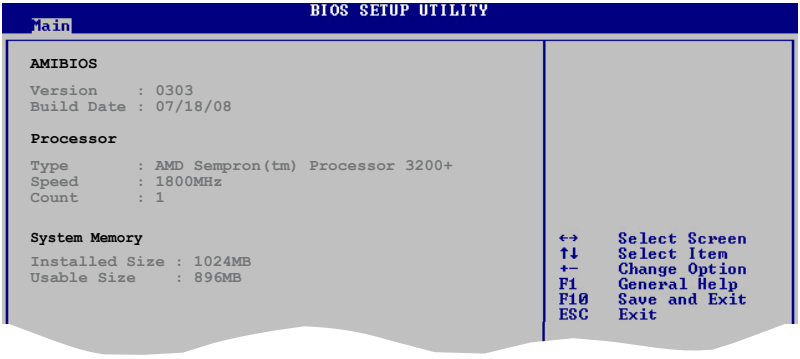
Allows you to disable or set the OnChip S-ATA devices.
Configuration options: [Enabled] [Disabled]

SATA Mode select [SATA Mode]

Allows you to select the SATA Mode. Configuration options: [SATA Mode] [RAID Mode] [AHCI Mode]

5.3.6 System Information

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.



AMI BIOS

Displays the auto-detected BIOS information

Processor

Displays the auto-detected CPU specification

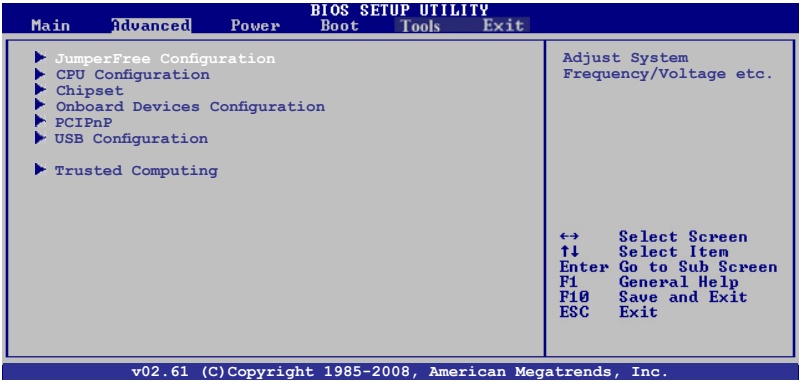
System Memory

Displays the auto-detected system memory

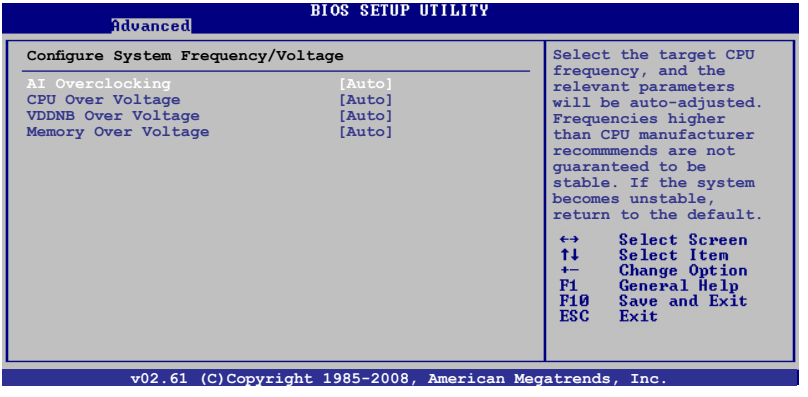
5.4 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



5.4.1 JumperFree Configuration


BIOS SETUP UTILITY
Advanced
Configure System Frequency/Voltage
AI Overclocking [Auto]
CPU Over Voltage [Auto]
VDDNB Over Voltage [Auto]
Memory Over Voltage [Auto]
Select the target CPU frequency, and the relevant parameters will be auto-adjusted. Frequencies higher than CPU manufacturer recommmends are not guaranteed to be stable. If the system becomes unstable, return to the default.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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AI Overclocking [Auto]

Allows selection of CPU overclocking options to achieve desired CPU internal frequency. Select either one of the preset overclocking configuration options:

[Auto] - allows you to set overclocking parameters automatically.

[Manual] - allows you to individually set overclocking parameters.

[Overclock Profile] - loads overclocking profiles with optimal parameters for stability when overclocking.

The following item appear only when the **CPU Overclocking** item is set to [Manual].

CPU Frequency, MHz [200]
Allows you to enter an integer value to over clock for CPU.
Configuration options: [Min.=200] [Max.=400]

MCP PCI-Express Frequency, MHz [100]
Allows you to enter an integer value from 100MHz to 150 MHz to over clock for PCIE. Configuration options: [Min.=100] [Max.=150]

iGPU Frequency [500]
Allows you to enter an integer value from 500MHz to 999MHz to over clock for GPU. Configuration options: [Min.=500] [Max.=999]

Shader Frequency [1200]
Allows you to enter an integer value from 1000MHz to 2000MHz to over clock for shader. Configuration options: [Min.=1000] [Max.=2000]

The following item appears only when the **CPU Overclocking** item is set to [Overclock Profile].

Overclock Options [Auto]
Allows you to select the overclock options. Configuration options: [Auto] [Overclock 3%] [Overclock 5%] [Overclock 7%] [Test mode]

CPU Over Voltage [Auto]

Allows you to adjust the CPU over Voltage. Configuration options: [Auto] [+50mV] [+100mV] [+150mV]

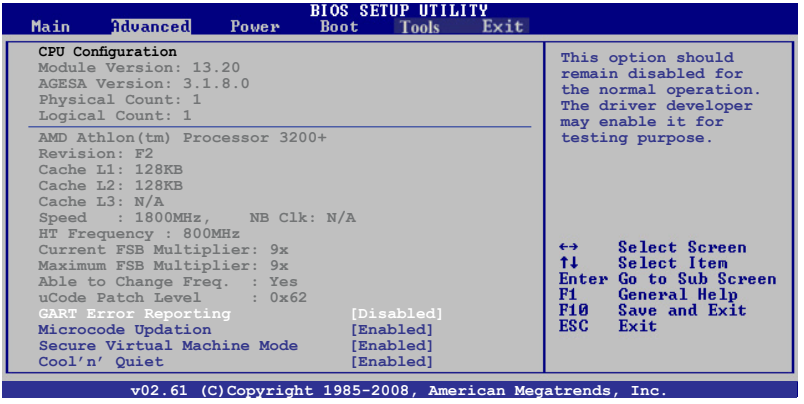
VDDNB Over Voltage [Auto]

Allows you to set the NorthBridge chipset voltage.
Configuration options: [Auto] [+ 50mv] [+ 100mv] [+ 150mv]

Memory Over Voltage [Auto]

Allows you to select the Memory Over Voltage. The increment is 6.25mV.
Configuration options: [Auto] [6.25mV] [12.5mV] [18.75mV] [25mV] ~ [393.75mV]

5.4.2 CPU Configuration


BIOS SETUP UTILITY
Main Advanced Power Boot Tools Exit
CPU Configuration
Module Version: 13.20
AGESA Version: 3.1.8.0
Physical Count: 1
Logical Count: 1
AMD Athlon(tm) Processor 3200+
Revision: F2
Cache L1: 128KB
Cache L2: 128KB
Cache L3: N/A
Speed : 1800MHz, NB Clk: N/A
HT Frequency : 800MHz
Current FSB Multiplier: 9x
Maximum FSB Multiplier: 9x
Able to Change Freq. : Yes
uCode Patch Level : 0x62
GART Error Reporting [Disabled]
Microcode Updation [Enabled]
Secure Virtual Machine Mode [Enabled]
Cool'n' Quiet [Enabled]
This option should remain disabled for the normal operation. The driver developer may enable it for testing purpose.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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GART Error Reporting [Disabled]

This option should remain disabled for the normal operation. The driver developer may enable it for testing purpose. Configuration options: [Disabled] [Enabled]

Microcode Updation [Enabled]

Allows you to enable or disable the microcode updation.
Configuration options: [Disabled] [Enabled]

Secure Virtual Machine Mode [Enabled]

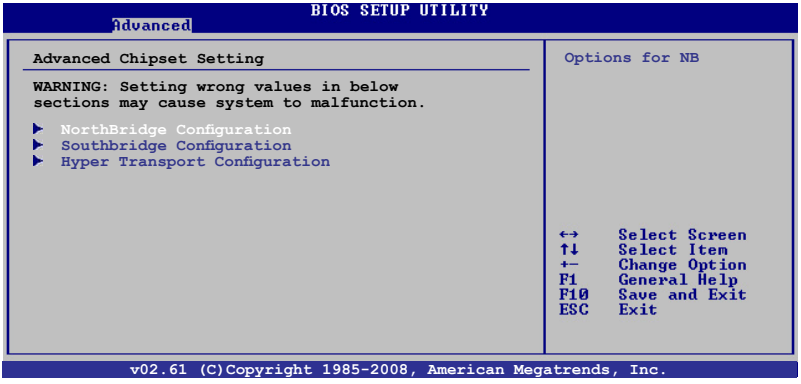
Allows you to enable or disable the AMD Secure Virtual Machine mode.
Configuration options: [Disabled] [Enabled]

Cool 'n' Quiet [Enabled]

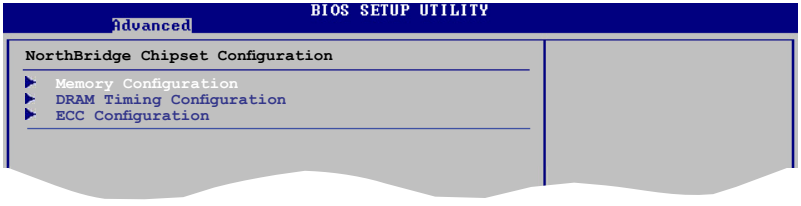
Allows you to enable or disable the generation of ACPI_PPC, _PSS, and _PCT objects. Configuration options: [Disabled] [Enabled]

5.4.3 Chipset

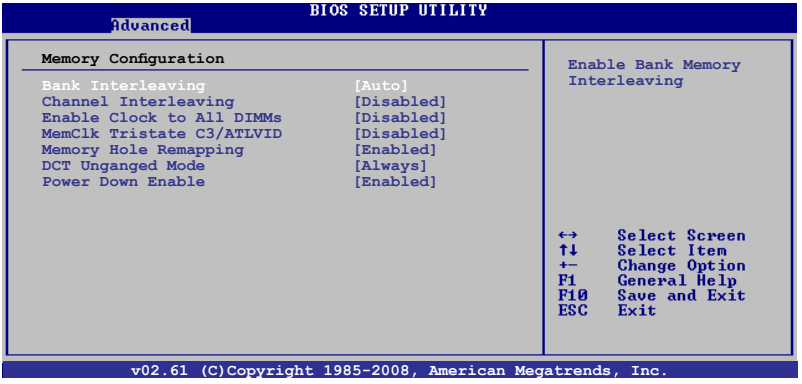
The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.



NorthBridge Configuration



Memory Configuration



Bank Interleaving [Auto]
Allows you to enable the bank memory interleaving.
Configuration options: [Disabled] [Auto]

Channel Interleaving [Disabled]
Allows you to enable the channel memory interleaving.
Configuration options: [Disabled] [Address bits 6] [Address bits 12] [XOR of Address bits [20:16,6]] [XOR of Address bits [20:16,9]]

Enable Clock to All DIMMs [Disabled]
Enables or disables clock to all DIMMs. Configuration options: [Disabled] [Enabled]

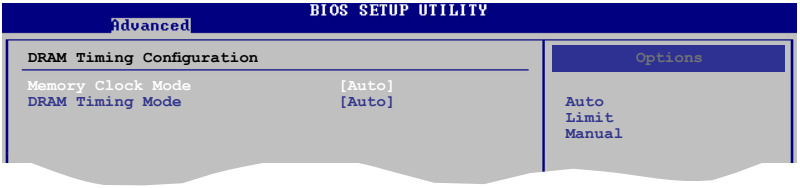
MemClk Tristate C3/ALTVID [Disabled]
Enables or disables the MemClk Tristate C3/ALTVID.
Configuration options: [Disabled] [Enabled]

Memory Hole Remapping [Enabled]
Enables or disables the memory remapping around memory hole.
Configuration options: [Disabled] [Enabled]

DCT Unganged Mode [Always]
Allow you to enable or disable Unganed mode.
Configuration options: [Auto] [Always]

Power Down Enable [Enabled]
Enables or disables the DDR power down mode.
Configuration options: [Disabled] [Enabled]

DRAM Timing Configuration



Memory Clock Mode [Auto]

Allows you to set the memory clock mode. Configuration options: [Auto] [Limit] [Manual]

The following item appears only when the **Memory Clock Mode** item is set to [Limit] or [Manual].

Memclock Value [266 MHz]

Allows you to select the memclock value. Configuration options: [266 MHz] [333MHz] [400 MHz] [533 MHz]

DRAM Timing Mode [Auto]

Allows you to set the DRAM timing mode. Configuration options: [Auto] [DCT 0]

The following items appear only when the **DRAM Timing Mode** item is set to [DCT 0].

CAS# Latency [Auto]

Allows you to set CAS# latency. Configuration options: [Auto] [3 CLK] [4 CLK] [5 CLK] [6 CLK] [7 CLK DH_Only]

TRCD [Auto]

Allows you to set TRCD. Configuration options: [3 CLK] [4 CLK] [5 CLK] [6 CLK] [Auto]

TRP [Auto]

Allows you to set TRP. Configuration options: [3 CLK] [4 CLK] [5 CLK] [6 CLK] [Auto]

tRTP [Auto]

Allows you to specify the read CAS# to percharge time. Configuration options: [Auto] [2-4 CLK] [3-5 CLK]

TRAS [Auto]
Allows you to set TRAS. Configuration options: [5 CLK] [6 CLK] [7 CLK] [8 CLK] [9 CLK] [10 CLK] [11 CLK] [12 CLK] [13 CLK] [14 CLK] [15 CLK] [16 CLK] [17 CLK] [18 CLK] [Auto]

TRC [Auto]
Allows you to set TRC. Configuration options: [11 CLK] [12 CLK] [13 CLK] [14 CLK] [15 CLK] [16 CLK] [17 CLK] [18 CLK] [19 CLK] [20 CLK] [21 CLK] [22CLK] [23 CLK] [24 CLK] [25 CLK] [26 CLK] [Auto]

tWR [Auto]
Allows you to specify when the last write is registered by the DRAM. Configuration options: [Auto] [3 CLK] [4 CLK] [5 CLK] [6 CLK]

TRRD [Auto]
Allows you to set TRRD. Configuration options: [2 CLK] [3 CLK] [4 CLK] [5 CLK] [Auto]

tRWTTO [Auto]
Allows you to set tRWTTO. Configuration options: [Auto] [2 CLK] [3 CLK] [4 CLK] [5 CLK] [6 CLK] [7 CLK] [8 CLK] [9 CLK]

tWRRD [Auto]
Allows you to specify the write to read delay when accessing different DRAMs. Configuration options: [Auto] [0 CLK] [1 CLK] [2 CLK] [3 CLK]

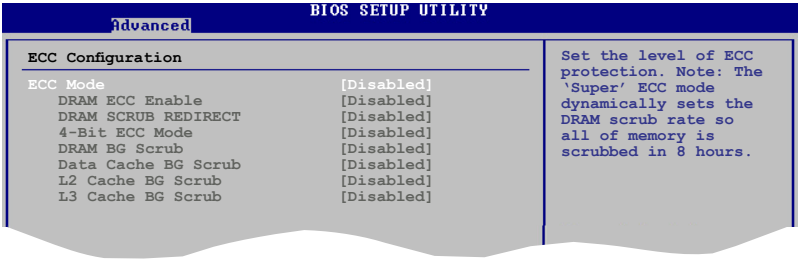
tWTR [Auto]
Allows you to specify the write to read delay when accessing the same DRAM. Configuration options: [1 CLK] [2 CLK] [3 CLK] [Auto]

tWRWR [Auto]
Allows you to specify the Twrwr time. Configuration options: [Auto] [1 CLK] [2 CLK] [3 CLK]

tRDRD [Auto]
Allows you to specify the Trdrd time. Configuration options: [Auto] [2 CLK] [3 CLK] [4 CLK] [5 CLK]

tRFC0/1/2/3 [Auto]
Allows you to specify the Trfc0/1/2/3 time. Configuration options: [Auto] [75ns] [105ns] [127.5ns] [195ns] [327.5ns]

ECC Configuration


BIOS SETUP UTILITY
Advanced
ECC Configuration
ECC Mode [Disabled]
DRAM ECC Enable [Disabled]
DRAM SCRUB REDIRECT [Disabled]
4-Bit ECC Mode [Disabled]
DRAM BG Scrub [Disabled]
Data Cache BG Scrub [Disabled]
L2 Cache BG Scrub [Disabled]
L3 Cache BG Scrub [Disabled]
Set the level of ECC protection. Note: The 'Super' ECC mode dynamically sets the DRAM scrub rate so all of memory is scrubbed in 8 hours.

ECC Mode [Disabled]

Enables or disables the DRAM ECC that allows the hardware to report and correct memory errors automatically. Configuration options: [Disabled] [Basic] [Good] [Super] [Max] [User]

DRAM ECC Enable [Disabled]

Enables or disables the DRAM ECC feature that allows the hardware to report and correct memory errors automatically to maintain system integrity.
Configuration options: [Disabled] [Enabled]

DRAM SCRUB REDIRECT [Disabled]

Enables or disables the DRAM SCRUB REDIRECT feature that allows the system to correct the DRAM ECC errors immediately when they occur.
Configuration options: [Disabled] [Enabled]

4-Bit ECC Mode [Disabled]

Enables or disables the ECC chip kill feature.
Configuration options: [Disabled] [Enabled]

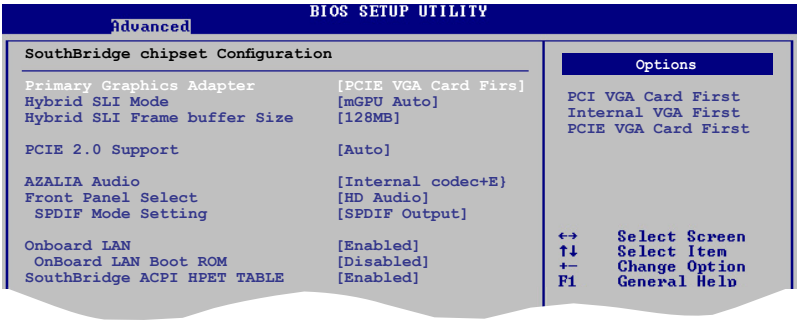
DRAM BG Scrub [Disabled]

Disables or sets the DRAM BG Scrub. Configuration options: [Disabled] [40ns] [80ns] [160ns] [320ns] [640ns] [1.28us] [2.56us] [5.12us] [10.2us] [20.5us] [41.0us] [81.9us] [163.8us] [327.7us] [655.4us] [1.31ms] [2.62ms] [5.24ms] [10.49ms] [20.97ms] [42.00ms] [84.00ms]

Data/L2/L3 Cache BG Scrub [Disabled]

Disables or sets the Data/L2/L3 Cache BG Scrub. This item allows the cache RAM to be corrected when idle. Configuration options: [Disabled] [40ns] [80ns] [160na] [320ns] [640ns] [1.28us] [2.56us] [5.12us] [10.2us] [20.5us] [41.0us] [81.9us] [163.8us] [327.7us] [655.4us] [1.31ms] [2.62ms] [5.24ms] [10.49ms] [20.97ms] [42.00ms] [84.00ms]

SouthBridge Configuration



Primary Graphics Adapter [PCIE VGA Card First]

Display Device Priority, from high to low. Configuration options: [PCIE VGA Card First] [Internal VGA First] [PCIE VGA Card First]

Hybrid SLI Mode [mGPU Auto]

Allows you to set the Hybrid SLI mode.
Configuration options: [mGPU Auto] [mGPU always enable]

Hybrid SLI Frame buffer Size [128 MB]

Allows you to set the iGPU Frame Buffer Size.
Configuration options: [32 MB] [64 MB] [128 MB] [256 MB]

PCIE 2.0 Support [Auto]

Allows you to enable or disable the PCIE 2.0 support.
Configuration options: [Disabled] [Auto]

AZALIA Audio [Internal codec+External codec]

Allows you to set HD Audio mode. Configuration options: [Disabled] [Internal codec+External codec] [Internal codec] [External codec]

Front Panel Select [HD Audio]

Allows you to set HD Audio mode. Configuration options: [HD Audio]

SPDIF Mode Setting [SPDIF Output]
Allows you to select SPDIF mode. Configuration options: [HDMI Output] [SPDIF Output]

Onboard LAN [Enabled]

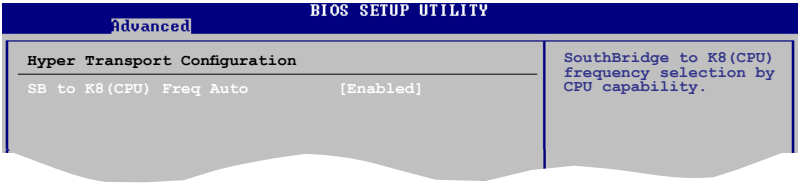
Allows you to set or disable the Onboard LAN. Configuration options: [Enabled] [Disabled]

OnBoard LAN Boot ROM [Disabled]
Allows you to enable or disable the OnBoard LAN Boot ROM.
Configuration options: [Enabled] [Disabled]

SouthBridge ACPI HPET TABLE [Enabled]

Allows you to enable or disable SouthBridge ACPI HPET TABLE.
Configuration options: [Disabled] [Enabled]

Hyper Transport Configuration


BIOS SETUP UTILITY
Advanced
Hyper Transport Configuration
SB to K8(CPU) Freq Auto [Enabled]
SouthBridge to K8(CPU) frequency selection by CPU capability.

SB to K8(CPU) Freq Auto [Enabled]

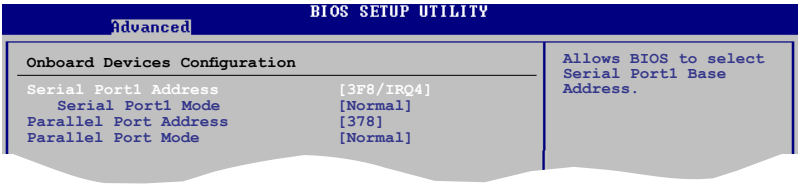
Allows you to enable or disable auto selection of SouthBridge frequency to K8(CPU). Configuration options: [Disabled] [Enabled]

The following items appear only when the SB to **K8(CPU) Freq Auto** item to [Disabled].

SB to K8(CPU) Frequency [1000MHz]

Allows you to select the frequency of the SouthBridge chipset to K8(CPU). Configuration options: [200MHz] [400MHz] [600MHz] [800MHz] [1000MHz] [1200MHz] [1400MHz] [1600MHz] [1800MHz] [2000MHz] [2200MHz] [2400MHz] [2600MHz]

5.4.4 Onboard Devices Configuration



Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address.
Configuration options: [Disabled] [3F8/IRQ4][2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3]

Serial Port1 Mode [Normal]
Allows you to select mode for Serial Port1. Configuration options: [Normal] [IrDA] [ASK IR]

Parallel Port Address [378]

Allows you to select the Parallel Port base addresses.
Configuration options: [Disabled] [378] [278] [3BC]

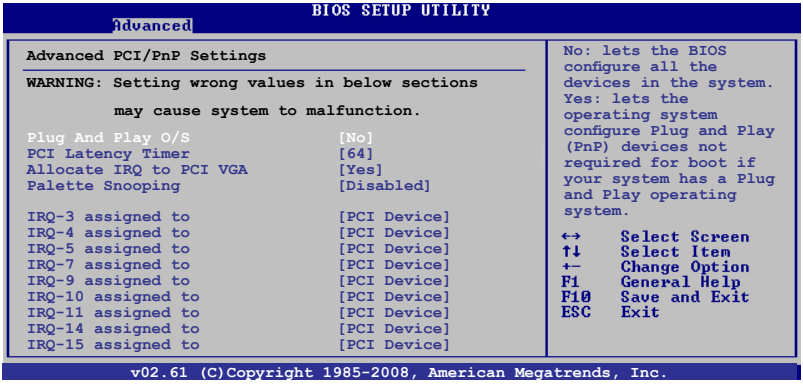
Parallel Port Mode [Normal]

Allows you to select the Parallel Port mode. Configuration options: [Normal] [EPP] [ECP] [EPP+ECP]

5.4.5 PCI PnP

The PCI PnP menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices, and setting the memory size block for legacy ISA devices.

Take caution when changing the settings of the PCI PnP menu items. Incorrect field values can cause the system to malfunction.


BIOS SETUP UTILITY
Advanced
Advanced PCI/PnP Settings
WARNING: Setting wrong values in below sections
may cause system to malfunction.
Plug And Play O/S [No]
PCI Latency Timer [64]
Allocate IRQ to PCI VGA [Yes]
Palette Snooping [Disabled]
IRQ-3 assigned to [PCI Device]
IRQ-4 assigned to [PCI Device]
IRQ-5 assigned to [PCI Device]
IRQ-7 assigned to [PCI Device]
IRQ-9 assigned to [PCI Device]
IRQ-10 assigned to [PCI Device]
IRQ-11 assigned to [PCI Device]
IRQ-14 assigned to [PCI Device]
IRQ-15 assigned to [PCI Device]
No: lets the BIOS configure all the devices in the system. Yes: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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Plug and Play O/S [No]

When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot.
Configuration options: [No] [Yes]

PCI Latency Timer [64]

Allows you to select the value in units of PCI clocks for the PCI device latency timer register. Configuration options: [32] [64] [96] [128] [160] [192] [224] [248]

Allocate IRQ to PCI VGA [Yes]

When set to [Yes], BIOS assigns an IRQ to PCI VGA card if the card requests for an IRQ. When set to [No], BIOS does not assign an IRQ to the PCI VGA card even if requested. Configuration options: [Yes] [No]

Palette Snooping [Disabled]

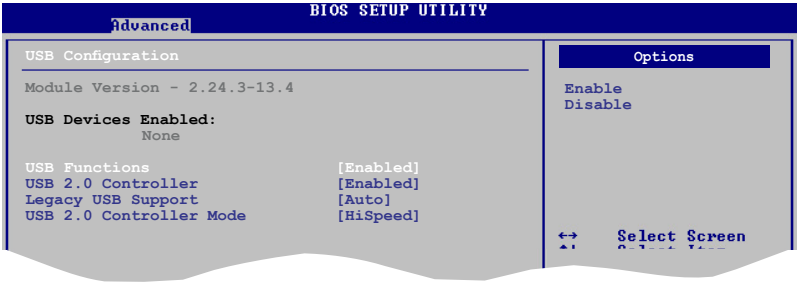
When set to [Enabled], the palette snooping feature informs the PCI devices that an ISA graphics device is installed in the system so that the latter can function correctly. Configuration options: [Disabled] [Enabled]

IRQ-xx assigned to [PCI Device]

When set to [PCI Device], the specific IRQ is free for use of PCI/PnP devices. When set to [Reserved], the IRQ is reserved for legacy ISA devices. Configuration options: [PCI Device] [Reserved]

5.4.6 USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press <Enter> to display the configuration options.



The Module Version and USB Devices Enabled items show the auto-detected values. If no USB device is detected, the item shows None.

USB Functions [Enabled]

Enables or disables the USB functions. Configuration options: [Enabled] [Disabled]

USB 2.0 Controller [Enabled]

Enables or disables the USB 2.0 Controller. Configuration options: [Enabled] [Disabled]

Legacy USB Support [Auto]

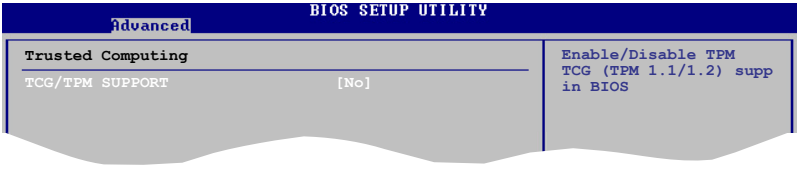
Allows you to enable or disable support for Legacy USB storage devices, including USB flash drives and USB hard drives. Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled. Configuration options: [Disabled] [Enabled] [Auto]

USB 2.0 Controller Mode [HiSpeed]

Allows you to configure the USB 2.0 controller in HiSpeed (480 Mbps) or Full Speed (12 Mbps). Configuration options: [Full Speed] [HiSpeed]

5.4.7 Trusted Computing

The items in this menu allows you to configure Trusted Computing related settings. Select an item then press <Enter> to display the configuration options.

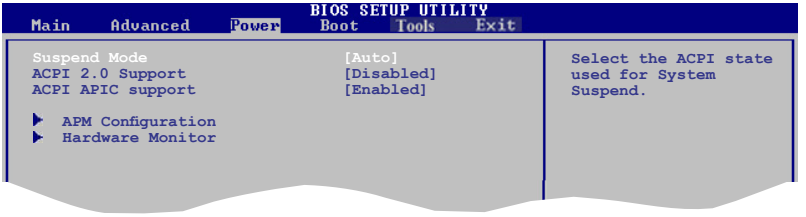


TCG/TPM SUPPORT [No]

Allows you to enable or disable the TPM/TCG (TPM 1.1/1.2) support in BIOS. Configuration options: [No] [Yes]

5.5 Power menu

The Power menu items allow you to change the settings for the Advanced Configuration and Power Interface (ACPI) and the Advanced Power Management (APM). Select an item then press <Enter> to display the configuration options.



5.5.1 Suspend Mode [Auto]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend. Configuration options: [S1 (POS) Only] [S3 Only] [Auto]

[S1(POS) Only] - Enables the system to enter the ACPI S1 (Power on Suspend) sleep state. In S1 sleep state, the system appears suspended and stays in a low power mode. The system can be resumed at any time.

[S3 Only] - Enables the system to enter the ACPI S3 (Suspend to RAM) sleep state (default). In S3 sleep state, the system appears to be off and consumes less power than in the S1 state. When signaled by a wake-up device or event, the system resumes to its working state exactly where it was left off.

[Auto] - Detected by OS.

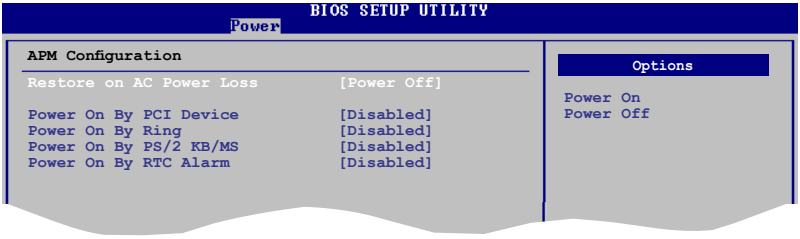
5.5.2 ACPI 2.0 Support [Disabled]

Allows you to add additional tables as per Advanced Configuration and Power Interface (ACPI) 2.0 specifications. Configuration options: [Disabled] [Enabled]

5.5.3 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Application-Specific Integrated Circuit (ASIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list. Configuration options: [Disabled] [Enabled]

5.5.4 APM Configuration



Restore on AC Power Loss [Power Off]

When set to Power Off, the system goes into off state after an AC power loss. When set to Power On, the system goes on after an AC power loss. Configuration options: [Power On] [Power Off]

Power On By PCI Device [Disabled]

Allows you to enable or disable PCI/PCIE/Onboard LAN devices to generate a wake event. Configuration options: [Disabled] [Enabled]

Power On By Ring [Disabled]

Allows you to enable or disable RI to generate a wake event. Configuration options: [Disabled] [Enabled]

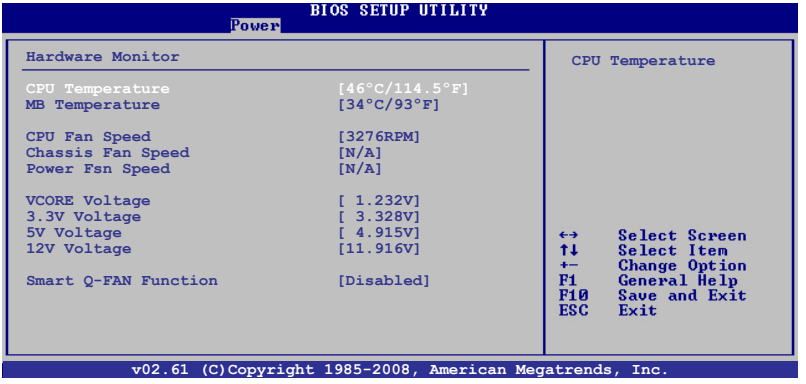
Power On By PS/2 KB/MS [Disabled]

Allows you to enable or disable PS/2 Keyboard/Mouse to generate a wake event. Configuration options: [Disabled] [Enabled]

Power On By RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is set to Enabled, the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values. Configuration options: [Disabled] [Enabled]

5.5.5 Hardware Monitor



CPU Temperature [xxxºC/xxxºF]
MB Temperature [xxxºC/xxxºF]

The onboard hardware monitor automatically detects and displays the motherboard and CPU temperatures. Select Ignored if you do not wish to display the detected temperatures.

CPU Fan Speed [xxxxRPM] or [Ignored]

The onboard hardware monitor automatically detects and displays the CPU fan speed in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows N/A. Select Ignored if you do not wish to display the detected speed.

Chassis/Power Fan Speed [xxxxRPM] or [N/A] or [Ignored]

The onboard hardware monitor automatically detects and displays the chassis/power fan speed in rotations per minute (RPM). If the fan is not connected to the chassis, the specific field shows N/A. Select Ignored if you do not wish to display the detected speed.

VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

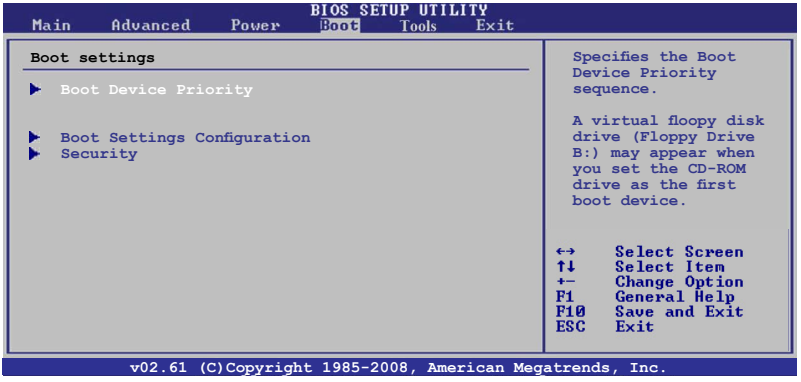
The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

Smart Q-Fan Function [Disabled]

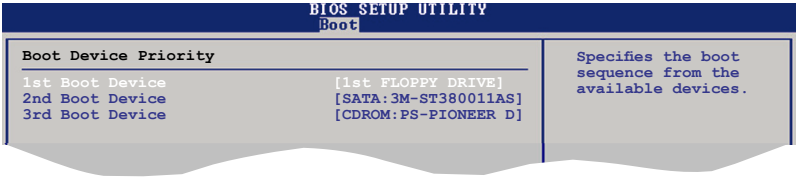
Allows you to enable or disable the ASUS Q-Fan feature that smartly adjusts the fan speeds for more efficient system operation. Configuration options: [Disabled] [Enabled]

5.6 Boot menu

The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu.


BIOS SETUP UTILITY
Main Advanced Power Boot Tools Exit
Boot settings
Boot Device Priority
Boot Settings Configuration
Security
Specifies the Boot Device Priority sequence.
A virtual floopy disk drive (Floppy Drive B:) may appear when you set the CD-ROM drive as the first boot device.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
v02.61 (C)Copyright 1985-2008, American Megatrends, Inc.

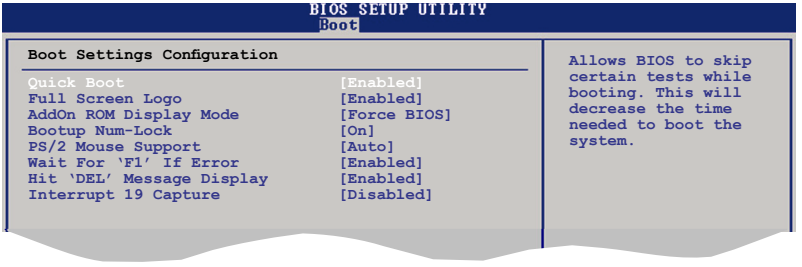
5.6.1 Boot Device Priority


BIOS SETUP UTILITY
Boot
Boot Device Priority
1st Boot Device [1st FLOPPY DRIVE]
2nd Boot Device [SATA:3M-ST380011AS]
3rd Boot Device [CDROM:PS-PIONEER D]
Specifies the boot sequence from the available devices.

1st ~ xxth Boot Device [1st Floppy Drive]

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [xxth Drive] [Hard Drive] [ATAPI CD-ROM] [Disabled]

5.6.2 Boot Settings Configuration


BIOS SETUP UTILITY
Boot
Boot Settings Configuration
Quick Boot [Enabled]
Full Screen Logo [Enabled]
AddOn ROM Display Mode [Force BIOS]
Bootup Num-Lock [On]
PS/2 Mouse Support [Auto]
Wait For 'F1' If Error [Enabled]
Hit 'DEL' Message Display [Enabled]
Interrupt 19 Capture [Disabled]
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.

Quick Boot [Enabled]

Enabling this item allows the BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items. Configuration options: [Disabled] [Enabled]

Full Screen Logo [Enabled]

This allows you to enable or disable the full screen logo display feature. Configuration options: [Disabled] [Enabled]

Set this item to [Enabled] to use the ASUS MyLogo 2™ feature.

Add On ROM Display Mode [Force BIOS]

Sets the display mode for option ROM. Configuration options: [Force BIOS] [Keep Current]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock. Configuration options: [Off] [On]

PS/2 Mouse Support [Auto]

Allows you to enable or disable support for PS/2 mouse. Configuration options: [Disabled] [Enabled] [Auto]

Wait for 'F1' If Error [Enabled]

When set to Enabled, the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

Hit 'DEL' Message Display [Enabled]

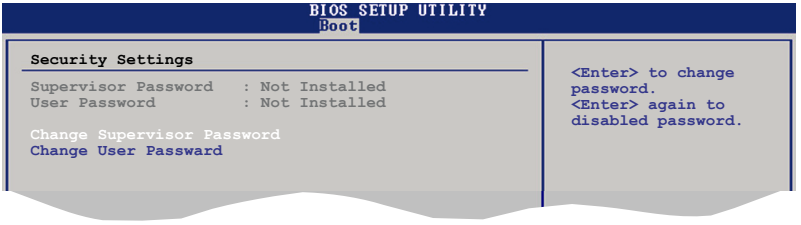
When set to Enabled, the system displays the message "Press DEL to run Setup" during POST. Configuration options: [Disabled] [Enabled]

Interrupt 19 Capture [Disabled]

When set to [Enabled], this function allows the option ROMs to trap Interrupt 19. Configuration options: [Disabled] [Enabled]

5.6.3 Security

The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options.



Change Supervisor Password

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a Supervisor Password:

1. Select the Change Supervisor Password item and press <Enter>.
2. From the password box, type a password composed of at least six letters and/or numbers, then press <Enter>.
3. Confirm the password when prompted.

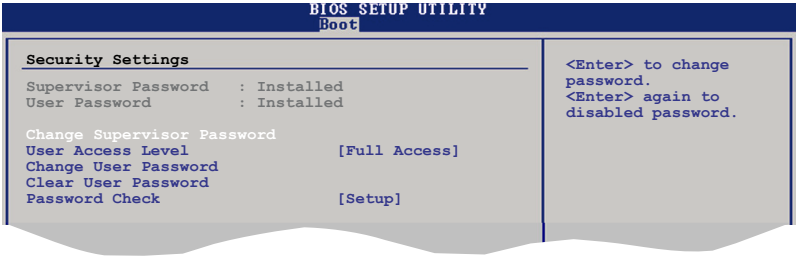
The message “Password Installed” appears after you successfully set your password.

To change the supervisor password, follow the same steps as in setting a user password.

To clear the supervisor password, select the Change Supervisor Password then press <Enter>. The message “Password Uninstalled” appears.

If you forget your BIOS password, you can clear clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section “1.9 Jumper” for information on how to erase the RTC RAM.

After you have set a supervisor password, the other items appear to allow you to change other security settings.



User Access Level [Full Access]

This item allows you to select the access restriction to the Setup items. Configuration options: [No Access] [View Only] [Limited] [Full Access]

No Access prevents user access to the Setup utility.

View Only allows access but does not allow change to any field.

Limited allows changes only to selected fields, such as Date and Time.

Full Access allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a User Password:

1. Select the Change User Password item and press <Enter>.
2. On the password box that appears, type a password composed of at least six letters and/or numbers, then press <Enter>.
3. Confirm the password when prompted.

The message “Password Installed” appears after you set your password successfully.

To change the user password, follow the same steps as in setting a user password.

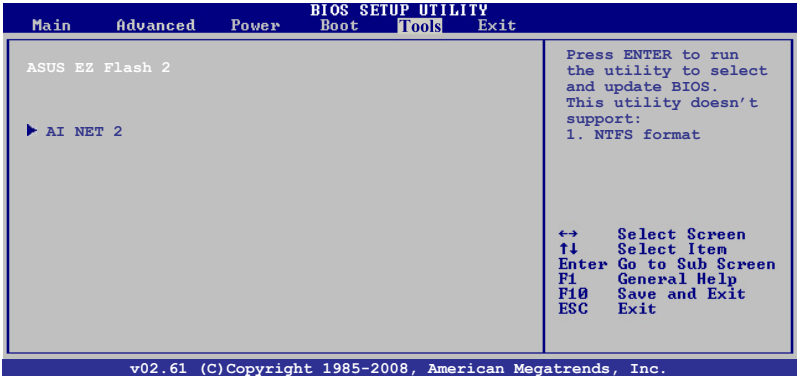
Clear User Password

Select this item to clear the user password.

Password Check [Setup]

When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

5.7 Tools menu


BIOS SETUP UTILITY
Main Advanced Power Boot Tools Exit
ASUS EZ Flash 2
AI NET 2
Press ENTER to run the utility to select and update BIOS. This utility doesn't support:
1. NTFS format
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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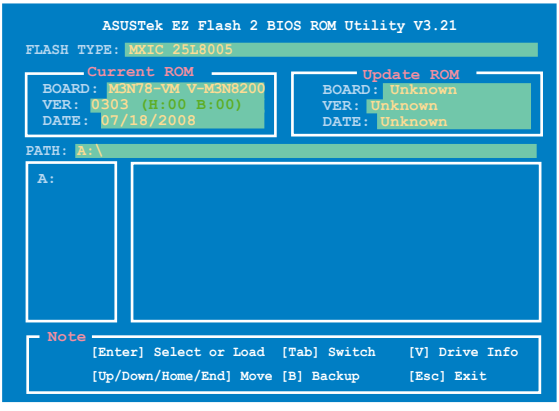
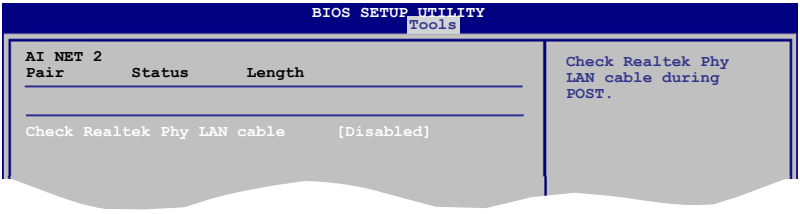
5.7.1 ASUS EZ Flash 2

Allows you to run ASUS EZ Flash 2. When you press <Ok>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Ok> to confirm your choice.



5.7.2 AI NET 2

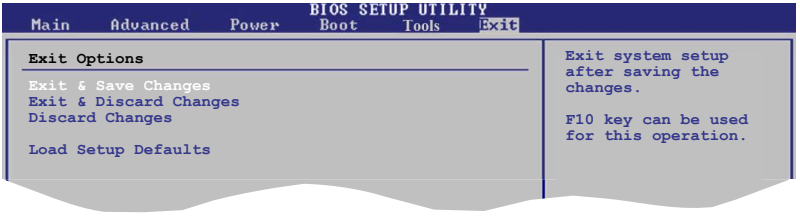


Check Realtek Phy LAN cable [Disabled]

Allows you enable or disable checking Realtek Phy LAN cable during POST. Configuration options: [Disabled] [Enabled]

5.8 Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.


BIOS SETUP UTILITY
Main Advanced Power Boot Tools Exit
Exit Options
Exit & Save Changes
Exit & Discard Changes
Discard Changes
Load Setup Defaults
Exit system setup after saving the changes.
F10 key can be used for this operation.

Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select **OK** to save changes and exit.

If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select **OK** to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select **OK** to load default values. Select **Exit & Save Changes** or make other changes before saving the values to the non-volatile RAM.